

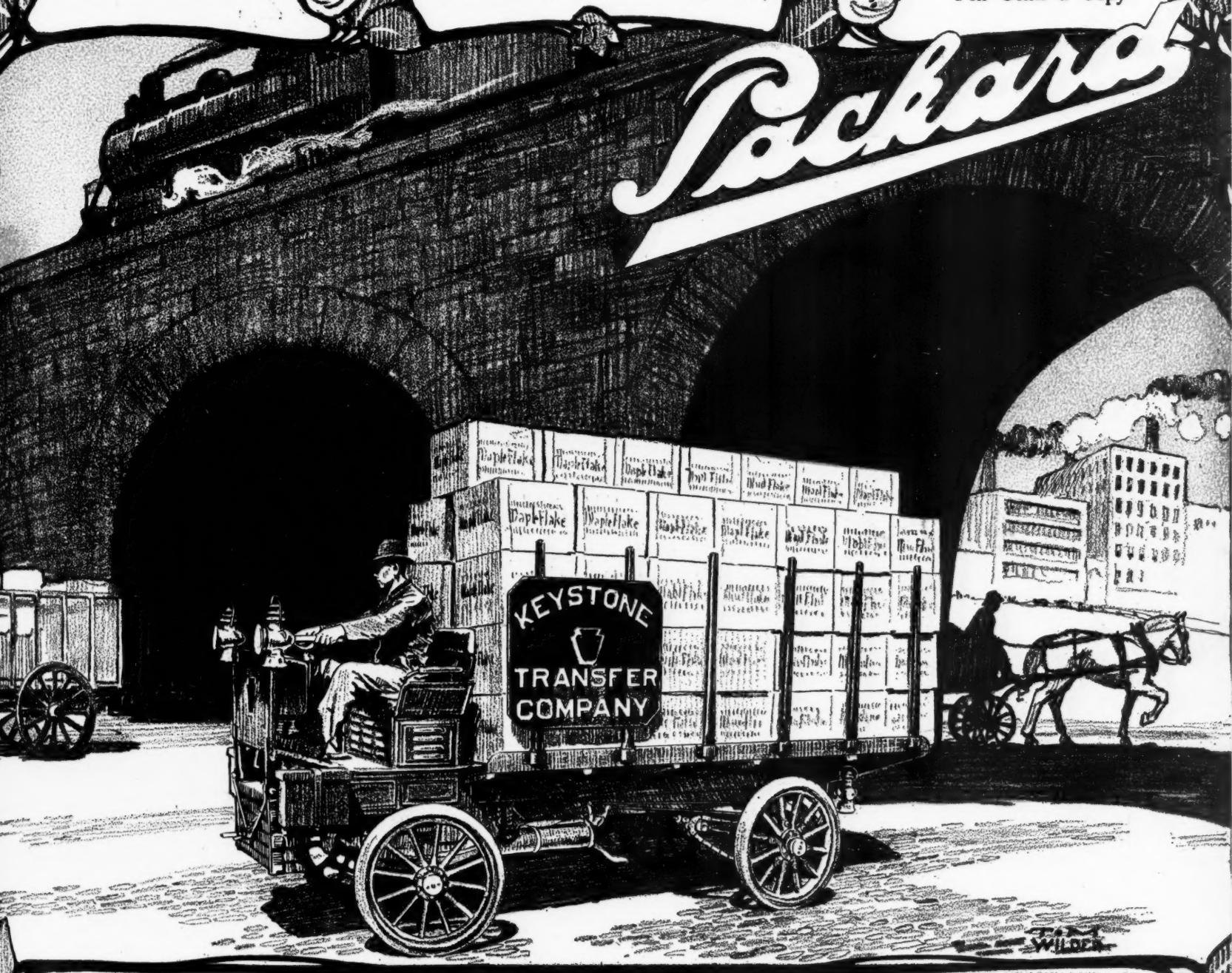
MOTOR AGE

Vol. VIII. No. 7

CHICAGO, AUGUST 17, 1905.

Ten Cents a Copy

Packards



THE Larkin Company (soap makers) of Buffalo, N. Y., bought a Packard truck in March last. They have given it three months' service, and the telegram reproduced herewith tells the results.

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PACKARD MOTOR CAR CO., Dept. 2. DETROIT, MICH.

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Standard Time. Received at Main Office, 201 Griswold and Lafayette Ave., Detroit, Mich. (Cablegram, M. 1912).

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Packard Motor Co.

Detroit, Mich.

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- ¶ They are good tires because they meet every requirement of good tires.

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DENVER—1562 Broadway.
LOS ANGELES—940 S. Main St.
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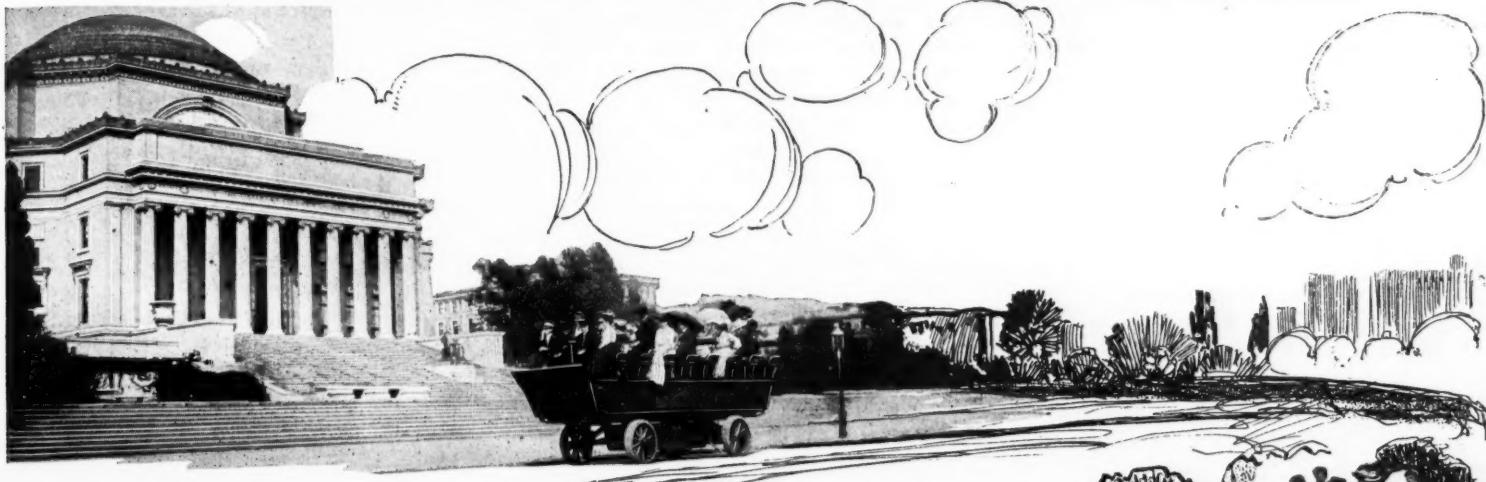
MOTOR AGE

VOL. VIII. No. 7

CHICAGO, AUGUST 17, 1905

\$2.00 Per Year

IN THE REALM OF THE RUBBERNECKS



"He rubbered, rub-ber-ed,
He rubbered all around,
And he rubbered through the town.
Rubbered! Rub-ber-ed!"

And the megaphone was working all the time!"
—Popular Song, Somewhat Perverted.

THE sight-seeing automobile, alias the Rubberneck-Coach, has been one of the features of New York city for less than 2 years, but every New Yorker has come to consider it an institution. The vision of the great terraced buses, each of which looks like a section of a theater auditorium sliced out and placed on wheels, with the anxious faces of the passengers turning in unison to one side of the street or the other as the guide with the megaphone calls out "On your right, ladies and gentlemen!—" or "On the left!—" is now so common a sight in all portions of

the metropolis, that no one pays any attention to it. Most residents of New York begin to think it has always been with them. There is less laughter at the rubberneck coach and its visitors than there used to be. It was considered the last resort of the hayseed and the mecca of the come-on for months after it first appeared. No acclimated New Yorkers would ride upon it. Now



it is understood that the New Yorker himself has learned to gain some enjoyment from taking the trips it offers.

The rubberneck coach has conquered already. The multiplication of the sight-seeing coaches is a matter to wonder at. Geometrical progression is nowhere. A year ago there were two companies sending out the buses. Now there are six and one hears of new companies being organized all the time. The companies began by each sending two cars. Now some have as many as twenty of the buses, large and small, and passengers are booked from twenty or more points in Manhattan or Brooklyn. The buses go uptown, downtown, to Chinatown, to Coney Island and other points.

The price for a seat on one of the buses for either the uptown or downtown trip used to be \$2. Competition has brought it down to \$1 per passenger and there are symptoms that an even greater reduction will follow soon. Even at the price prevailing today there must be a fair margin of profit, for the sightseeing buses often go packed to the guardrail and a few disappointed tourists are often left behind.

THE RUBBERNECK CARS INCLUDE ALL SORTS,
OF ALL AGES AND ALL MOTIVE POWERS



It is almost impossible to get at the amount of money invested. The capitalization of the companies is heavy on paper, but it is questionable how much money has really been put into the machines and business. A conservative estimate would probably be a million and a half. But this figure is impossible of confirmation. The six companies show all degrees of management and all kinds of business methods. Some are run with the care that is shown in the operation of a steam railroad, while with others the business seems to be a hit-or-miss venture, the cars being started when enough passengers have been secured to make a good showing.

With the exception of one concern, the buses are all electric machines, the amperage varying with the size and carrying capacity of the car. As a rule the vehicles have little trouble in making the trips about town and to various points of interest. They rarely break down and if they do the telephone is called into requisition and the passengers are transferred to another bus and sent on their way with but slight delays. The reliability of the vehicles has become somewhat of a wonder to many, and not a little of the popularity of the electric truck and delivery wagon has been a result of the record for steadiness established by the sightseeing coaches.

Lately, that is to say, during the present season, there has been a marked change in the conduct of the business on account of the use of the smaller bus, seating from eight to twenty passengers. Many tourists prefer to use these small buses, alleging that they are subjected to less publicity when journeying in them. The smaller buses carry the same guides and the passengers have all the facilities vouchsafed to the passengers in the caravan coaches. And the smaller vehicles have the advantage of being able to be managed more easily in crowded streets and, often, can make better time, which is appreciated by the sightseers themselves.

There is another reason, according to the companies using the smaller buses, why this type is destined to be the sightseeing vehicle of the future. It is alleged that the traffic police do not look with favor

on the large coaches, which take up so much room in crowded streets, like Broadway, and are so unwieldy and difficult to manage. The many turns, made necessary in the congested parts of the town by the new traffic regulations and the fencing off of paths, in which the vehicles must run, operate against the large coaches. It is thought that the police will refuse, at no distant date, to allow the heavy coaches to travel in every part of the crowded districts. When this does occur, it is predicted that there will be a slump in the stock of the companies which use only the heavy coaches.

Observers will note, if they take the trouble to systematically watch the sightseeing vehicles, that there are two general types of vehicles among the heavy wagons. Some have seats rising in terraces from the driver's seat to the rear, while others are level, or almost so. The builders of terraced coaches thought that this was a great improvement over the first coaches made, where the seats were all on the same level. The terracing did make a gain in popularity, but at present, it is said, many passengers object to being perched high in the rear seats and there appears to be a tendency toward a return to the more conventional form. The six companies which are doing business in Manhattan are the American Sightseeing Coach Co., which has an office in the Flat Iron building; the Park Carriage Co., with general offices at the Hotel Bartholdi; the New York Auto Transfer Co., with offices at 946 Broadway; the All Around New York Co., 948 Broadway; the International Touring Co., with offices in

the Casino building; and the Automobile Coaching Co., whose office is in the New York Theater building. With these six companies are associated, by financial ties, a number of other companies, most of them having the same directors and performing various functions. One of them conducts a garage business in connection with the sightseeing venture. Another is a holding or parent company, made necessary on account of the method of financing the company which actually controls the business. Into the details of these cross organizations it is futile to inquire. The questioner is involved in a labyrinth of finance, which, even if made clear and put upon these pages, would add nothing to the story of the industry.

The company which claims to be the pioneer in the business is called the American Sightseeing Car and Coach Co. It was the first to send out automobiles in New York city.

The parent company has several subsidiary companies, one of which operates the Seeing New York yacht which sails around the city each day. It also operates sightseeing automobiles in Washington, Philadelphia, Denver, Salt Lake City, Boston and Kansas City. Edward K. Somborn, the treasurer, is in active charge of the New York end and he gave some interesting facts regarding the company and the business.

"Our company—and I speak without bias and merely of facts—is the pioneer in this business," said Mr. Somborn. "The industry has its origin in the somewhat accidental use of street cars as means of developing a private business. It was this way: About 10 years ago William J. Mayham, of Denver, was in the real estate business in that city. He was the president and general manager of the Mayham Investment Co. and there was a boom on in Denver real estate. To aid the many inquirers after conditions in Denver, Mr. Mayham chartered an electric street car and turned it over to the people who, coming to Denver from other points, were desirous of investing in real estate. Mr. Mayham put a guide on the car who explained to the passengers the details of the lots and houses for sale, which could be seen from the car, and also gave the prospective customers an idea of the way Denver was developing, by pointing out large buildings and historic spots. All this,



POSING FOR THE PHOTOGRAPHER'S END OF THE GAME



you understand, was to further the real estate business in and around the city.

"Now, it happens that Denver is, outside of New York, probably the most popular city with tourists in the country. They come from all directions and seem to centre there. These tourists would ask the hotel clerk the best way to see Denver and the hotel clerks got in the habit of saying: 'Get aboard the real estate car and say you are interested in real estate. That's the best way to get an idea of the town.'

"They did so in large numbers and for a while had a glorious time, having the sights of Denver explained to them without money and without price. Finally, the Mayham Investment Co. got on to the scheme that was being worked and Mr. Mayham began to charge tourists to ride on his chartered car. The scheme worked so well that he chartered some more cars and went into the business.

"The plan coming to my knowledge—and I am frank to say I was a copyist—I went to Washington, leased a few cars and began to show strangers about the capitol. About a year afterwards, when the business in Washington was doing well, Mr. Mayham sent for me and I had a conference with him here in New York city. That was the beginning of the sightseeing business there and in many other cities. In New York there was no line of street cars which could be used for the purpose intended, and so we naturally turned to automobiles. While we were having the first coaches built, and we were the first for whom they were built, we used six-horse buses and coaches, which were abandoned as soon as the first of the automobiles was delivered.

"We now use, in New York city, forty large vehicles, which are of two general types, one of which seats twenty people and the other fourteen. Our vehicles have been made to our order by the Electric Vehicle Co. and the Vehicle Equipment Co. We shall shortly start in New York a line of touring cars which we shall rent by the hour, day or week, with or without guides, and we believe that there will be a considerable demand for these.

"In the main our company differs from all other companies with a very few exceptions, in that we aim to keep the business of sightseeing upon a high plane of refinement. Of late there has been a good deal of cheap humor retailed by the guides aboard sightseeing vehicles and we have studiously refrained from

allowing anything of the sort on our vehicles. We have been able to secure many refined guides, college students and others, and so have been able to keep up the tone of the business which we do. Our vehicles are stored with the New York Transportation Co. on Forty-ninth street."

The Park Carriage Co., which has its booking and general offices in the Hotel Bartholdi, at Twenty-third street and Broadway, lays claim to being the oldest established company in the business. This claim is good so far as the sightseeing business as a whole is concerned, if not regarding the direct business of trips about the city. For the Park Carriage Co. was founded in 1869 by Thomas J. Brown, who was at one time the general manager of the Erie Railway and was associated with Jim Fisk in the management of that property when the latter was enjoying his most palmy and prosperous days. The company for many years had the privilege of taking tourists about Central park in the buses or carryalls which every man of middle age remembers as being the proper caper when New York was visited. No one thought of going to Central park without taking a park carriage. The company charged first \$1, then 50 cents and, for the last few years, 25 cents per passenger to take them to the menagerie and the Metropolitan museum, and so on. Latterly the park carriages, long since horseless, have included Riverside drive and Grant's tomb in their itineraries.

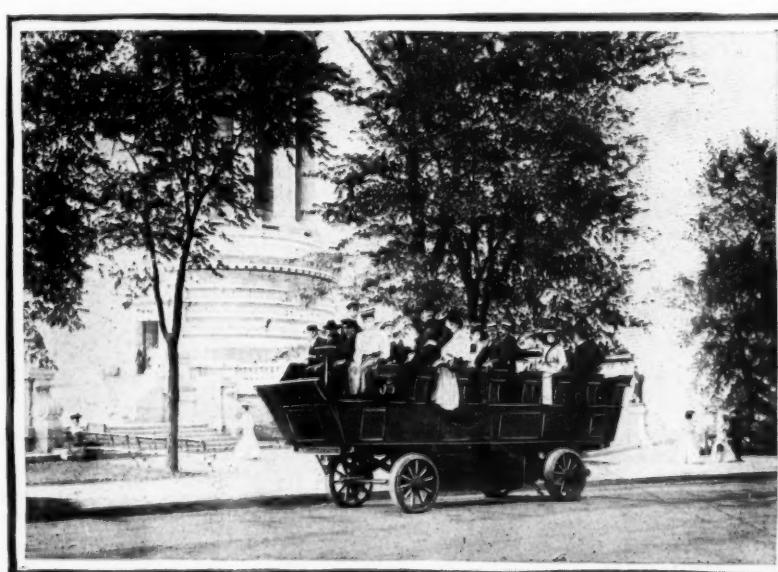
About a year ago the Park Carriage Co. began the sight-seeing business in competition with the two companies which then existed: The company is very closely allied to the New York Transportation Co., which controls the electric hansom business, and this again has a close relationship to the Electric

Vehicle Co. The Park Carriage Co. runs trips oftener than any other company. It begins at 10 o'clock in the morning and sends vehicles away each hour until 5 o'clock in the afternoon. All its cars leave from the Bartholdi hotel. O. A. Dickinson, the general manager, said to a Motor Age man, in discussing the business of the company:

"We run two types of vehicles. The larger type is the heavy terraced bus, capable of accommodating thirty-eight passengers. But we use only two of these. Our principal dependence is on the small park carriages, of which we use twenty in this service. These seat twenty passengers each—a few smaller cars seat eight, but we use these only for overflow purposes. All our cars are painted green and hence we have come to be known as the Green Cars, a phrase which is easy to remember and which brings many passengers to us. We use only small swinging signs, which we can take off our cars whenever we please. All our drivers are in uniform and we have ten or more guides always at work and use more whenever necessary, as on holidays and excursion trips.

"Both J. J. Farnsworth, the traffic manager, and myself are railroad men by training, and when we were placed in charge of this service we saw that much was to be gained by systematizing it. Now we run the cars on as absolute a schedule as are the trains of any well-conducted railway. We can tell at any hour in the day just what cars are out and just where they are. If anything happens while the cars are making any trip, they telephone to the garage at Forty-ninth street, and there are three wrecking cars ready to take mechanics and a superintendent to the scene of the break-down in short order. If the car can be repaired at once, this is done. If not, the passengers are at once transferred to another car and the tour goes forward. This happens very seldom. We have had only one accident of moment. That was when one of our large buses crashed into a trolley car on Eighth avenue. One person, a passenger who jumped under the wheels, was killed, and a woman riding on the coach jumped overboard and injured her head. We were exonerated of any blame in the matter. This I believe is the only case where there has been a serious accident to any of the large sight-seeing coaches of the city. This fact speaks volumes for the carefulness of the drivers and we reckon ours as among the most careful.

"As to capacity. We can carry, if required, 600 persons. Some idea of the business



PASSING SOLDIERS' AND SAILORS' MONUMENT



GOING UP FIFTH AVENUE

which we do can be gained from the fact that in July we carried 7,500 people. On one occasion we took care of 1,500 guests of the Prudential Life Insurance Co., but to do this we had to use a number of our park wagondettes and extra equipment. I may say, incidentally, that we do a heavy business in furnishing automobile transportation for special occasions like the one I have mentioned. There are conventions and meetings going on all the time and our company is the one best equipped for taking care of large numbers of people. This fact has become generally known and in consequence we are doing well."

Mr. Dickinson is, naturally, a firm believer in the future of the small coach—the one seating from eight to twenty passengers. He believes it will supersede the heavy vehicle for sight-seeing work and that when the business settles down to a firm basis this will be the popular means of transportation which will survive the boom times. The company makes trips from Twenty-third street north and from Twenty-third street south, the charge being \$1 each way. Some idea of the points of interest shown and pointed out by the guide on all the sight-seeing coaches can be gained from the list of buildings and other sights shown by the Park company on its downtown trip. The up-town trip is equally full of interest and includes the following sights:

New York Historical Society building, largest savings bank in the world, site of the first Metropolitan Opera house, the tallest inhabited building in the world, where forms the "bread line" every night, the terminal of all the elevated railroads, the craziest sign on Broadway, building where Arnold the coffee king failed, church where Washington attended services, skyscrapers, the mission that gives 1,000 men breakfast, site where stood lead statue of George III, the old custom house, the Equitable Life Insurance building, the Flat-Iron building, burial place of Alexander Hamilton and Robert Fulton, Mulberry street, Cooper Union, offices of J. P. Morgan, Madison square, New York Life building, St. Paul's chapel, court of special sessions, Chinatown, New York Chamber of Commerce, Little Italy, Newspaper row, Castle Garden, Wall street, the Bridge of Sighs, the Bowery, Pell street, Salvation Army hotel, street devoted entirely to mil-

linery establishments, Steve Brodie's, site of first Jewish synagogue, burial place of Charlotte Temple, building where President Grant and his cabinet held a session, Old London theatre, statue of Liberty, Brooklyn bridge, site of home of the late August Belmont, oldest building in Wall street, Sailor's Snug Harbor estate, residence of Marvan Dana, Players' club, former home of Pierre Lorillard, Jewish cemetery consecrated in 1658, site of home of Charlotte Temple, statue of Wolfe, church erected in memory of first foreign missionary, burial place of Capt. Lawrence of "Don't give up the ship lads" fame, hotel where Prince of Wales, now King Edward VII, was entertained, where Adelina Patti made her debut, 1853, first white marble front building built in New York, site of Laura Keene's theater, burial place of Peter Stuyvesant, St. Mark's church, cemetery from which the body of A. T. Stewart was stolen, site where Washington rested his army, Paradise park, Cotton exchange, Tombs prison, New York clearing house, New York postoffice, statue of Nathan Hale, Subway tavern, hall of records, building where was organized the first Chamber of Commerce, site of Merchant's Exchange, building where Washington bade farewell to his officers, site of negro burial grounds, home of Abraham Hewitt, Fraunce's tavern, former home of Samuel J. Tilden, St. Denis hotel, former home of Cyrus W. Field, Thalia theater, old Bowery theater, statue of Lafayette, oldest savings bank in New York, the Eye and Ear hospital, American Surety building, the United States Army building, Bowling Green building, Broad Exchange building, Consolidated Stock Exchange, the Empire building, Fulton Market, the richest bank in America,

the New York hospital, the former potter's field, Standard Oil Co. building, Tammany Hall, Washington memorial arch, Trinity church, Rev. C. H. Parkhurst's church, Union square, Academy of Music, birthplace of President Roosevelt, statue of the last Dutch governor of New Amsterdam, the coastwise steamers, East river, stopping place of Jenny Lind, church containing the largest ecclesiastical picture in the world, barge office, landing place of the immigrants, Union square, Printing House square, building in which Jenny Lind sang on her first appearance in America, site of the original home of J. J. Astor, scene of the \$20,000,000 fire in 1835, wine 2,500 years old, site of Benedict Arnold's headquarters, 1783, shortest street in New York, the Five Points, the largest fish market in the United States, Cherry hill, site where Marinus Willets seized from the British muskets with which he armed the American troops, Mills building, Whitehall building, oldest ferry entering New York, site of the old slave market in 1709, first street laid out in New York, site of first settlement by white men, oldest building in New York, Boreel building, site of first sidewalk laid in New York, University of the City of New York, site where was organized the first Sunday-school in New York, home of late James Lenox, building where was organized the first foreign American mission, new Williamsburg bridge, the Ghetto, the New York Times building old, the New York Tribune, statue of Franklin, the New York Produce Exchange, St. Paul building, Washington building, Washington's church, Manhattan club, statue of Admiral Farragut, first Methodist church built in America in the year 1721, burial place of Gen. Montgomery, the Bowery, Street No. 1, east side tenements, barracks, Hotel Bartholdi, marble cemetery, oldest Christian cemetery in New York, oldest statue in New York, site of P. T. Barnum's museum, theater where performed the elder Booth, Barrett, and where Charlotte Cushman made her debut, scene of the Stokes-Fisk tragedy, oldest church site in New York, site of home of Peter Stuyvesant, statue of Clinton, Astor house, finest brick and terra cotta building in existence, site of Liberty Pole, Park row, office of Hetty Green, richest woman in the world, New York bay, Washington square, site of the battle of Golden Hill, One Mile Stone, first street paved in New York, building where Lafayette was welcomed in 1824, post route between New York and Boston, the United States quartermaster's office, the thirty-two store building, Broadway, establishment formerly conducted by blind millionaire merchant, site of Niblo's garden, of Black Crook fame, fire boat New Yorker, statue of Abraham de Peyster, Westminster hotel, the richest spot



STOPPING 5 MINUTES FOR REFRESHMENTS

on earth, Mulberry Bend, police patrol boat, statue of Garibaldi, Maiden lane, site of the first American president's church, 1717, site of Fort Amsterdam, 1619, Lafayette Brevoort hotel, Mulberry Bend park, Broadway Central hotel, Constable building, the United States Army building, Bowery Mission, Bowling Green square, the New York city hall, New York custom house building, New York Stock Exchange, World building, Park Row building, Grace church, sub-treasury, criminal court, place where Washington took the oath of office as president of the United States, site of building where Washington's inaugural ball took place, building where Abraham Lincoln made his celebrated speech entitled "The Little Giant of Illinois," statue of Gutenberg, Young Women's Christian Association, "Curb" market. All this in 2 hours!

The large vehicles of the Park Carriage Co. have batteries which last for 40 miles of travel. The capacity of the batteries in the smaller types is 36 miles. The weight of a large car is approximately 7 tons. The weight of a small car is about 3 tons. The average mileage for the cars of this company is 36 miles.

The New York Auto Transfer Co. operates the Fischer system of coaches. The system, a combination of electric and gasoline power, has been several times described and needs no further comment. The buses are those made by the Fischer Motor Vehicle Co., of Hoboken, which company is now controlled by the St. Louis Car Co. There are four types in use by the company—a terraced bus, holding forty passengers, 4-cylinder, of 180 amperage, equal to 30 horsepower, and weighing about 7 tons, three in use; a double-decked type holding twenty-four passengers on top and sixteen inside, same power and weighing about 6 tons, two in use; one small terraced bus of three cylinders and weighing about 2 tons, holding thirteen passengers, and one three-cylinder terraced bus, weighing about a ton and a half and seating eight passengers. It will be seen that more than 200 passengers can be accommodated at once. When it is remembered that all vehicles are used at least three times a day it will be seen that the daily business must be very heavy. The New York Auto Transfer Co. has its booking office in what is known as the Post Card store, at 946 Broadway.

For the actual business of booking passengers, this company, like all the others, requires only a small office and a small office force. The selling of tickets is easily done by two men and the tickets are collected by the drivers or guides on the cars. The bookkeeping is simple and the details of the business are small. This is one reason why the industry has shown such remarkable growth in the last year, and this growth has by no means reached its limit.

Arthur M. Beckman, the manager of the company, said: "We keep our vehicles at our own garage on Thirty-sixth street, between Tenth and Eleventh avenues. We do a large general garage business also, the latter branch of the business being conducted by a separate company, known as the New York Observation Auto Co. We employ seven drivers and five lecturers, a small office staff and a large corps of garage assistants. We send coaches from this point northward, covering about 15 miles of territory, and downtown covering about 10½ miles. We are running to practically our full capacity now, though this is not really the busy season; the heaviest business comes later.



TYPE OF DOUBLE DECKER

"In addition to the cars sent from here we send cars from the Saks' building at Thirty-fourth street and Broadway, three times a day. We depart at 10 a.m., and 2 and 4 p.m. This does not include the night trip to Chinatown, for which we charge \$2, and which includes entrance to the Chinese theater and a Chinese dinner. Nor does it take account of the trip to Coney Island, which we make each day. Our buses make the run to Luna park in 1 hour 35 minutes. On Saturday we make two trips to Coney Island and on Sundays three."

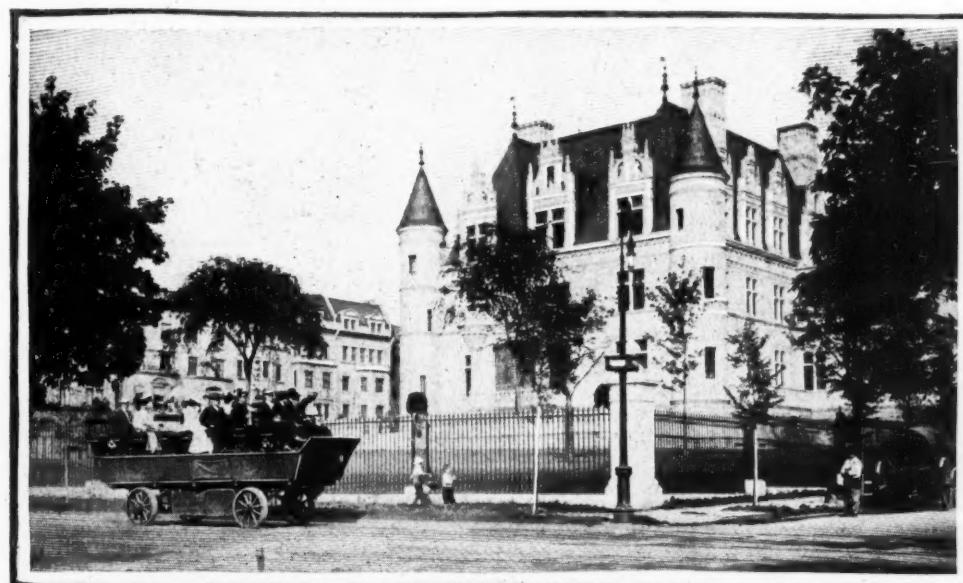
The All Around New York Auto Co. has an office in a florist shop a few doors above. It is affiliated with the All Around Philadelphia Co. and the All Around Washington Auto Co. and operates three coaches in New York city. These are one large terraced bus, seating thirty-eight passengers, and two small buses, seating eleven each. All the vehicles are electrics and all were furnished by the Rainier company and made by the Vehicle Equipment Co., of Brooklyn. The storage is with the Manhattan Transit Co. at Forty-seventh street and Seventh avenue. The company has been doing business for only 2 months in New York, though it has been carrying passengers for about a year in Philadelphia and Washington. Its buses leave at 10, 2 and 4 o'clock on both the uptown and downtown circuits and at 9 o'clock for Chinatown. A tour to Coney Island is also made at 5:30 each day and the return trip starts from the island at 11 p.m. The company has an arrangement by which the tourists secure free admission to the Boer war spectacle and to

Steeplechase park. The cost of the Coney Island trip with this company is \$1.50.

The Automobile Coaching Co. has its office in the New York Theater building and catches a great deal of the uptown trade on account of being located further north than any of the other companies—at Forty-fifth street. It operates four coaches, all electrics. Three of them seat twenty-four passengers each and one seats forty. All are of an amperage equal to about 36 horsepower. The manager, Edward R. Underhill, in speaking of the work of the coaches and company, said:

"We were the first company to go through New York's Ghetto, and even now go more thoroughly through the Jewish quarter than any other company. I am always fond of telling this fact, because we had a tough time at first. We were assailed with overdue eggs and rotting vegetables and we had to carry two plain clothes men on the car every night. There were two or three arrests a night at first, but now the Ghettoites have become used to the coaches and there is very little trouble experienced. We start coaches from this theater three times a day in both directions and we also have a Coney Island trip and a Chinatown trip. We have the most consistent record for reaching Coney Island and returning, I believe, of any of the companies. I lay this to the fact that nearly all our coaches were new last April and that we constantly renew our batteries. We go north as far as Grant's Tomb and around it as do all the companies now, I believe."

"Our vehicles were provided by the Rainier company and we still store with them at their garage at Ninth avenue and Twenty-seventh street. The disastrous fire in May, which burned most of the garage, came at a fortunate time for us, as all our coaches were out at the time. We use five drivers and four guides, but stand ready to increase our equipment at any time when the public demands more accommodation. Much of our success is due to the fact that we use an adjustable canopy, which can be put up at any time if a slight shower should come up. This has helped us a great deal to gain popular favor. We send a coach three times a day from Madison square, also. We have all the business we can attend to. I do not see how the sightseeing business could be any more popular than it is. When the early fall rush of tourists begins to come in we shall be swamped with traffic."



PASSING RESIDENCE OF CHARLES M. SCHWAB

AUTOMOBILING HIGH UP ON PIKE'S PEAK



Denver, Col., Aug. 10—Two automobiles have climbed the Pike's Peak trail to an elevation of 8,000 feet, which, it is claimed, is the highest point on the trail a motor car has ever reached. One of the cars was driven by Miss Courtes, a 16-year-old, who is given credit for being the first woman driver to attempt the road above Manitou. W. K. Jewett and wife, Charles A. Scott and A. Merrick started from Colorado Springs in a model E Locomobile with the intention of climbing as high as they could and taking a few photographs. Manitou is 6 miles distant from Colorado Springs and the road raises 100 feet to the mile. From Manitou, at an elevation of 6,629 feet, starts the cog road, climbing to the top of Pike's Peak, 14,147 feet above the sea level. On the way to Manitou the Jewett party encountered another model E Locomobile in which were Mrs. Courtes, her 16-year-old daughter and son. The car was driven by the girl, who immediately became pathfinder for the united party.

As told by one of the Jewett party the trip up was full of incident, the feature of which was the plucky driving of the young miss. The historian says:

"We passed Iron Springs on our left, but could not forego the pleasure of a draught from the soda springs, as the water is so much better than any Manitou we ever bought in the east. Here we started up Ute Pass. The road is traveled constantly and is in good shape as far as Cascade, which is 1,000 feet above Manitou and 6 miles distant. It is from this point that the proposed Pike's Peak climb will be started. We left the good canyon road and turned sharply to the left into an unusual mountain trail. At last we were enjoying the anticipation of months. The road is rough, crooked and stony and kept us busy, but both cars seemed to realize the task and the way they got busy would make you think they had a knowledge of the road. Up and up, 10, 20 and even 25 per cent grades were shown by the gradeometer; over stones, through ruts and ditches that threatened to capsize us over the banks. Deep ruts and jagged stones projecting from the center of the trail threatened to divest the cars of aprons, fly wheels and starting cranks.

"The road is abandoned, save by the most ardent sportsmen and prospectors, but the way the cars negotiated it was a surprise to all of us. We stopped often to enjoy the scenery, which is marvelous and beyond description. A



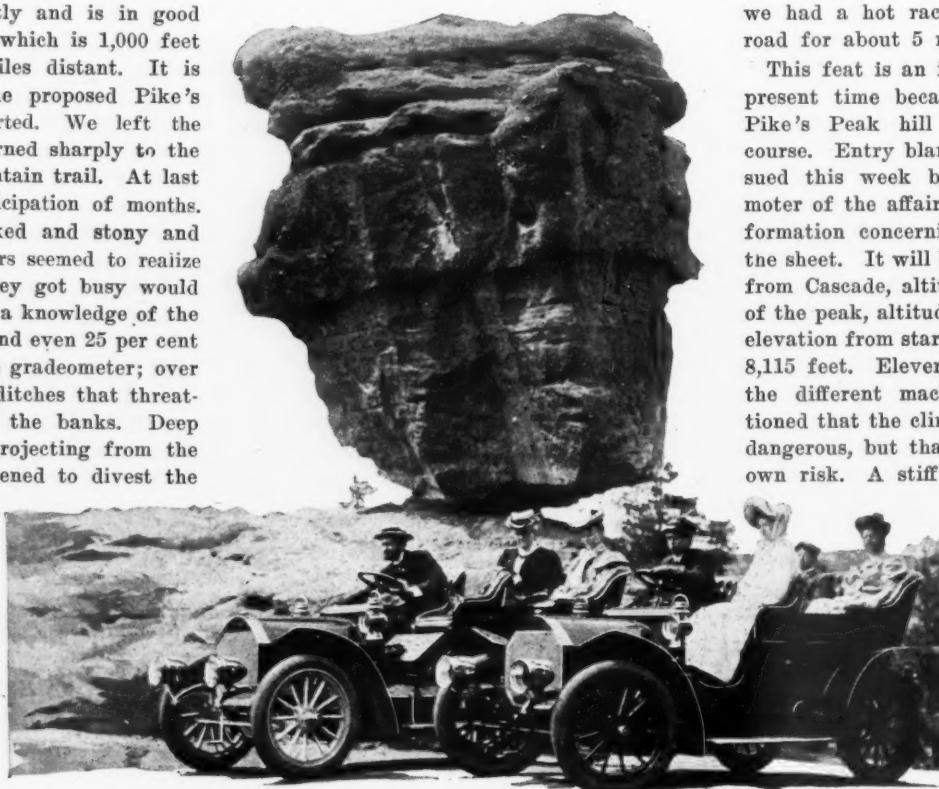
THE ROAD THROUGH UTE PASS WINDS BETWEEN VERTICAL ROCKS

genuine coyote crossed the trail ahead of us, but would not give us even a friendly howl. We never drove where such care was necessary; a stone thrown over the side is lost to sight before it strikes the side of the mountain below. One second of lost control and we would have gone crashing down the side of the canyon, hundreds of feet below. The water boils in the radiator and if you crank the engine you will puff, so light is the atmosphere. We reached an elevation of 8,000 feet and stopped to take some pictures. Miss Courtes was still driving and soon came up with us. She is the first woman driver to attempt the road above Manitou and the Locomobile is the first touring car to ascend this high.

"We found it difficult to turn around and every one got out, preferring to let the cars go over into the canyon alone, if they must go at all. Coming down was as hard as going up, but we cut out the ignition and used the engine on the intermediate gear as a brake part of the time. At Cascade again we looked at our radiator and found that a quart of water was all we wanted. We coasted nearly all the way back to Manitou, and leaving the main road, came through the Garden of the Gods. Passing on we came between the castle rocks, rich in colors of red and brown, and reached the heights of the Mesa road, and stopped a few minutes for lunch from Mrs. Jewett's tea basket. After the lunch we had a hot race down the smooth Mesa road for about 5 miles."

This feat is an interesting one just at the present time because of the fact that the Pike's Peak hill climb follows the same course. Entry blanks for this event were issued this week by G. A. Wahlgreen, promoter of the affair, and the first detailed information concerning the climb is given in the sheet. It will be over the old wagon road from Cascade, altitude 5,992 feet, to the top of the peak, altitude 14,107 feet. The rise in elevation from start to finish will therefore be 8,115 feet. Eleven classes will be made for the different machines, drivers being cautioned that the climb is not only difficult and dangerous, but that it will be made at their own risk. A stiff entrance fee of \$100 per

machine has been made, the half of the fee to be returned to each owner who shall register at the Half Way house. Controls will be established at different points along the line, where supplies of gasoline and water may be renewed conveniently.



STARTING FROM A POINT NEAR THE BALANCED ROCK

Entries close August 20. A penalty of \$50 will be exacted from those who enter after that date, if their entry is accepted.

Classes and classifications:

First, runabout class—Regular stock machines as per maker's catalogue, \$650 or under.

Second, over \$650 to \$1,000 class—Regular stock car as per maker's catalogue.

Third, over \$1,000 to \$2,000—Regular stock car as per maker's catalogue.

Fourth, over \$2,000 to \$3,000—Regular stock car as per maker's catalogue.

Fifth, over \$3,000 to \$4,500—Regular stock car as per catalogue of the manufacturer.

Sixth, all over \$4,500—Regular stock car as per maker's catalogue.

Seventh—Cars weighing from 551 to 851 pounds.

Eighth—Cars weighing from 851 to 1,432 pounds.

Ninth—Cars weighing from 1,432 to 2,204 pounds.

Tenth, free for all—Any weight, power and horsepower.

Eleventh—Any weight, cylinder-fired, gasoline-power cars.

The management reserves the right to declare out all classes which do not fill and to postpone the climb from the dates announced, if the weather is unfavorable.

"The G. A. Wahlgreen cup is valued at \$1,000, and is to be contested for annually, under conditions similar to those governing the present contest," says the donor of the trophy. "When the cup shall have been won three times by the same owner it becomes the personal property of that person. The cup is to be awarded to the car, irrespective of class, which makes the best record to the summit of Pike's Peak. Handsome prizes will be awarded those who finish first and second in each class in the competition."

"All cars must carry two male passengers,



NARROW PORTION OF ROAD IN UTE PASS



MISS COURTES, THE PLUCKY YOUNG DRIVER, AND VIEW OF WAGON ROAD IN SIGHT OF COG ROAD

each of whom must be competent to manage and control the automobile. Every car must be equipped with an extra emergency brake, which must be thoroughly tested before the start is made. Women will not be allowed to take part in the contest, either as drivers or passengers. Manufacturers entering stock machines must agree to sell cars for price entered, on demand, for cash. Competent repair men, as well as supplies of the best gasoline and lubricants, will be found at the scene of competition.

"Contestants are notified that owing to the rare atmosphere which will be encountered as cars near the summit of the peak, especial care will have to be given the engines, and this question should be carefully studied before the climb is attempted. The right to reject any entry is reserved. A change of gears will be the only variation allowed in the equipment of regular stock cars participating in this contest. Owing to the fact that storms may be encountered at any time during the climb, contestants are advised to provide themselves with heavy clothing."

This definite announcement of Wahlgreen's is expected to set at rest the rumors that the climb had been abandoned. There was some trouble, it is said, over the sanction, caused by the fact that the contest was originally planned to be conducted under the auspices of Wahlgreen personally, but now that an association has taken the affair in hand it is expected there will be no more hitches. It is planned to put the road in condition before the climb, which means considerable expense for the promoters, as the course at the present time sadly needs looking after to make possible fast time up the stiff incline. In places the track is scarcely wider than the tread of a touring car and on it rest huge boulders, washed there during the spring torrents. These will have to be removed, numerous culverts built and the road surface generally improved before the contest.



GRAFT ENTERS THE GARAGES

ALTHOUGH it was naturally expected to make its appearance, it is none the less to be regretted that graft has entered the automobile trade, and particularly the garage, the automobile hostelry upon which much depends and upon which many people are compelled to depend.

If all the tales that are told are to be believed, and there is little reason to doubt them, as long as they come from authentic sources, it is by no means a safe proposition to take automobiles to all garages for keeping or for repair. It should not be construed, however, that the danger lies with the garage owner, but rather with employees, who spend more time devising schemes to extract a little money from a customer than they do working.

MOTOR AGE has heard of a number of cases which show graft on such a scale of magnitude that it behooves the keepers of garages to start systematic investigations as to the conduct of employees in order to protect their own good names and prevent extortion from their customers, most of whom are not particularly well versed in the care and management of automobiles and are compelled to depend upon the advice of the garage attendants.

Probably there are a very few unscrupulous garage owners who are up in the game of graft in all the word implies, but it cannot be imagined that a sensible business man, who is attempting to build up a trade, would countenance such despicable methods as are reported. The garage owner cannot at all times be on hand, and he must naturally depend upon employees to run the establishment in his absence. It is during this period that the grafting process is worked to its fullest extent.

Overcharges for supplies, charging excessive time for the work of a few moments in order to put a car in shape, taking out a customer's car for hire at wee sma' hours of the night, and similar tricks are some of the practices of which complaint is made.

The man who keeps his touring car at a garage is at the mercy of the chauffeur and the garage employees, who probably nine times out of ten are in league to the injury of the car, the keeper of the garage and the owner of the automobile. These methods will sicken the owner and ruin the keeper before they know it and will in addition do an injury to the automobile business that cannot be repaired.

The whole matter resolves itself into a question of quality of help. It will be found that it will not do to take into one's employ anybody who happens to know a carburetor from a spark plug or who can manipulate a clutch and an emergency brake. The element of hon-

esty must be present in the garage as much as in the bank if the garage is to be made a business enterprise and hopes to live.

The fact is that there has been a scarcity of competent help such as would be of service about a repair shop or garage, and owners have been compelled to take almost anybody who happened to present himself and proclaimed that he was the right sort of person to fill the bill. It must be remembered that the automobile is offering a splendid field for the educated mechanic, that the field is continually broadening and that with the graduates from automobile and technical schools the market will soon be ready to supply capable and honest men, who will supplant not only the incapable but the dishonest ones, against whom this complaint is lodged.

The employees themselves are not of the calibre to judge what is best for their own interests, even if they had sufficient honesty in their make up to do so. It is but natural that such incompetents must fall by the wayside and give way to those who are honest and who desire to serve employers and their customers as they are paid for doing. It will be a case of the survival of the fittest in this as it is in others, and the wise man is he who stops and thinks for a moment.

There are incompetent and grafting owners of garages, but the public is not slow to recognize an injustice and the fate of such people will be their due reward. They can-

not last, no matter how successfully they may appear to be conducting their affairs. There is an abundance of room in most places for well kept, well appointed, decently conducted garages, and there always will be. The well conducted garage will be as essential as the livery stable and more so when the commercial car is practically universally used. The thinking garage owner has a big field before him, but he will find that extortion and graft on the part of himself or any of his employes will have to be separated from his business if he is to find favor with the public and hopes to gain a livelihood therefrom.

MOTOR AGE realizes that grafters cannot be eliminated in a week, a month or a year, and also that car owners must be on the alert for cases of extortion when repairs are being made on cars garaged. In the latter case time clocks can be introduced. The garage attendants will be required to give a properly stamped card to the car owner, showing the hour at which the car entered the garage and also the time when it was removed. These cards would be issued in duplicate, one being forwarded to the business office of the garage, where it is filed. This method would, at least, record not only length of storage, but also amounts charged.

In making repairs, each repairman could be supplied with duplicate time cards, showing the exact time when work was commenced on the repair, the amount of material used, and the time of completion. One card would be given to the car owner and the other to the garage office, where the cashier or other parties would affix the price and stamp the price on each card. This method of conducting repairs as well as charging is successfully used in many machine shops and foundries and there is no reason why it cannot be equally successfully adopted in garages.

The garage industry has developed so rapidly in the past few years, and the demand for attendants has been so great, that all classes of men have been accepted. With the standardization of cars, and the education of drivers, as well as the improvements in construction, fewer repairs will be needed, better help will be obtainable and general satisfaction given.

THE INEVITABLE RESULT COMES

UNFORTUNATE as was the affair, the least that can be said of the accident to Kiser is that the inevitable came; the wonder is that death did not fix its grip. How Oldfield, Kiser, Jay, Wurgis, Chevrolet, Lytle and a score of other automobile track racing men have taken the chances they did and how some, particularly Oldfield, have escaped death is almost beyond comprehension.

The man does not live who does not sympathize with Kiser; the man does not live who does not wonder how racing men escape with their lives, even when competing in a single event. That they should be able to go through a season's campaign and come out alive is marvelous.

Poor Kiser was unfortunate enough to be selected to set men thinking, but if his loss of a limb can prevent fatalities in the future the lesson will be cheaply bought. This accident ought to teach a lesson; it was intended to do so. No matter what the cause of this particular affair, there have been so many accidents that have been forgotten because they did not prove serious, that the race management and

the race-going public might, long ago, have stopped to think what would be the consequences if some safeguards were not devised. Now that the horse has been stolen, probably a cheap padlock will be put on the barn door. More likely, however, that the door will be left entirely open and other horses will be stolen.

Just as long as big fields are started there will be serious accidents; when the number of starters is reduced to a safe limit—two—racing fizzles. If there is any hope for automobile track racing, the intellects of many good men will have to be worked overtime in order to devise a means to eliminate the dangers and at the same time give the public something for its money. It is no task for one man; no one man is capable of assuming the burden. It is the duty of the racing board of the American Automobile Association to remedy the evils and if the board feels its inability to handle the matter, it should frankly call for suggestions from those who might have them to offer.

It is patent, however, that track racing today is too dangerous to exist longer than a season or two at the very most.

Jump Sparks

Does anybody wonder that the track racing men demand big retaining fees?

While electricity is the favorite motive power at Sing Sing, N. Y., the prisoners there would prefer gasoline, if they had their way.

Rubbernecks are not necessarily a product of the rubber trust, but a distinct type of the Gothamite evolved by the omnibus lines running in that city.

With the farmers showing increased interest in the move for better highways, the membership in the National Bad Roads Association is reported to be rapidly decreasing.

With the Evanston police instructed to fire on the scorchers and the Glencoe people using the hose, the Chicago motorists will soon have to go through fire and water to pass these towns along the Sheridan drive.

The proposition to give a benefit race meet for Earl Kiser is a generous thought, and the men who participate in it, with the accident to Kiser in their minds, will prove themselves little short of heroes in the public's estimation.

Maybe it is just as well the Federation of Motor Cyclists held its annual meeting at Waltham, electing R. G. Betts president, for there might have been police interference in Chicago, where the sports find it hard work placing their bets with the right people.

Winthrop E. Scarritt may be a good American—like William Waldorf Astor, perhaps. His criticism of American roads and American cars and his prating on French roads and French cars and French methods of manufacture do not, however, indicate that he is American in any sense of the word.

The Week

Economy test at meet of Federation of American Motorcyclists won by F. C. Hoyt, who also wins obstacle race; S. T. Kellogg first in dispatch race.

Automobile Club of California decides to help prosecute record aspirants trying for honors between Los Angeles and San Francisco.

Cissac breaks three motor cycle records at Blackpool, England, meeting, while Earp ties world's flying kilometer mark.

Delegates to Chicago-New York good roads convention meet at Lakewood, N. Y., and talk on big highway.

Forty-two cars survive in endurance from Los Angeles, Cal., to Santa Barbara; four tie for chief prize.

Earl Kiser meets with serious accident at Cleveland, injuring left leg so amputation is necessary.

Racing board of A. A. A. puts its O. K. on Vanderbilt race course and arranges minor details.

National Association of Automobile Dealers to confer with A. L. A. M. in New York, August 24.

Buffalo motorists furnish 140 cars and take 850 orphans out for good time.

Christie, Chevrolet and Ford to clash at Cape May meet, August 25 and 26.

Negro drivers were conspicuous by their absence at the Blackpool meet in England.

Garage keepers have been so busy this summer that they have been unable to drive their cars themselves. They have bent all their efforts at driving bargains.

Motor cycles are showing a speed of 88 miles an hour, so it is about time the old gag of racing the Empire State express was dug up again by the sensation-mongers.

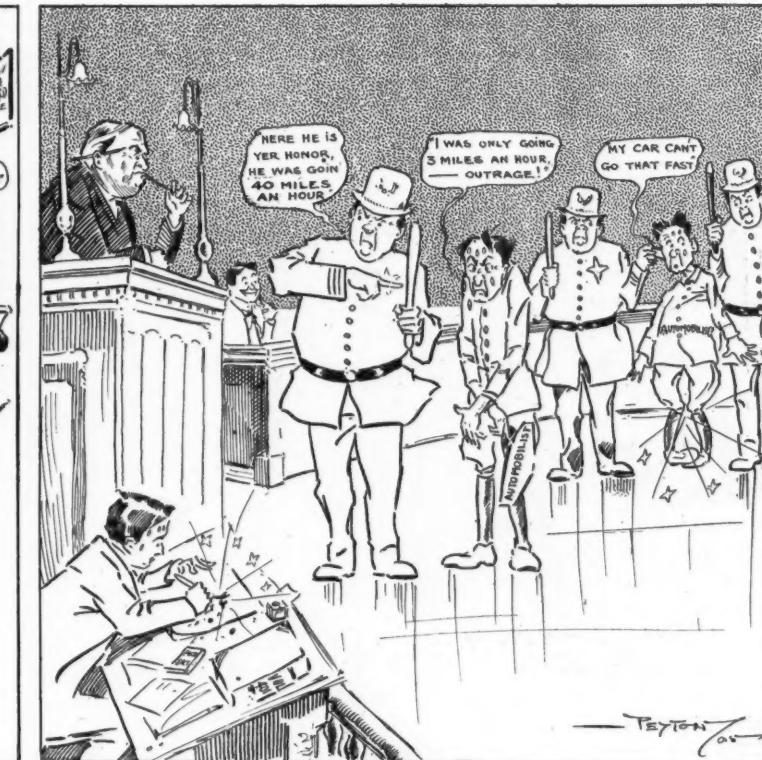
If the peace commissioners at Portsmouth succeed in ending the Russo-Japan war it may upset the plans of Kuropatkin and cause the abandonment of the endurance run he has been considering for some time.

With one of the companies of the Chicago fire department equipped with an automobile, is there any danger that it will be called upon to bump the bumps at its suburban neighborhood, Glencoe?

If the Glencoe police authorities persist in using the fire hose to stop scorchers on the Sheridan drive they will sort of revolutionize the trade by converting all the air-cooled motors into water-cooled engines.

The sea serpent is becoming passe along the Atlantic coast now that the hotel keepers have discovered that a beach course is the proper thing to catch the guests looking for extra sensations while summering at their resorts.

"New Jersey is the most advanced state, so far as automobiling is concerned," says Winthrop E. Scarritt in an European interview. Illinois disputes this, claiming her Sheridan drive can furnish more excitement in 1 minute than New Jersey can in a week, if sensations are what the motorists are seeking.



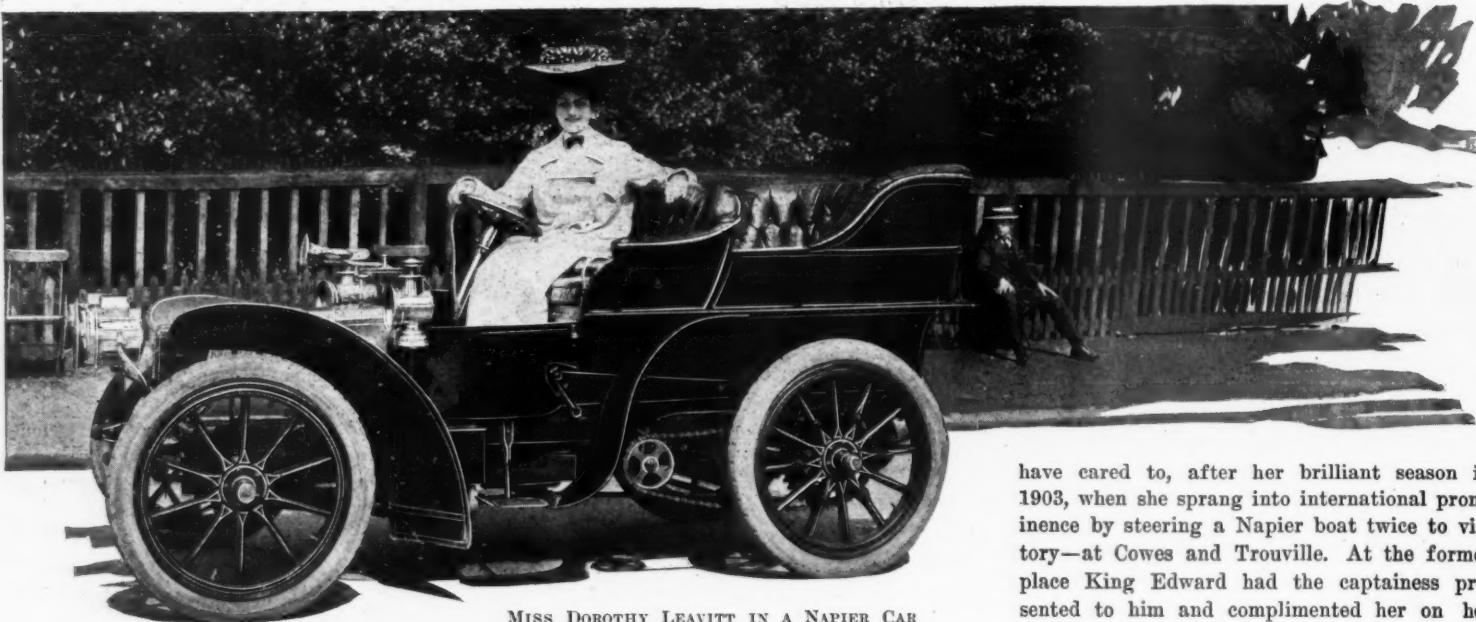
NOW

AND

THEN

TEYTON

TWO PROMINENT ENGLISH MOTORISTS



MISS DOROTHY LEAVITT IN A NAPIER CAR

Place aux Dames is very much in the order of the day in the English sporting world, where women are daily testifying to their skill and coolness and where they are gradually coming to the fore in motoring as well. It is no uncommon sight to see a woman pilot her car through all the huge traffic of the London streets during the season, and how many have succumbed to the joys of automobiling is amply proved by the flourishing condition of the Ladies' Automobile Club of Great Britain and Ireland, which occupies the proud position of being the only club of its kind in the world, and this at a period when civilization abounds with associations covering every recognized and unrecognized female want and aspiration.

But quite apart from the crowd of motor enthusiasts, who follow the sport from motives of pleasure, England can lay claim to two young women experts, both of whom devote themselves solely to automobilism—one from sporting and the other from technical points of

view. Both of them are indeed clever drivers.

Miss Dorothy Leavitt is undoubtedly—apart from the rich French amateur, Madame du Gast, who has so recently given a display of her unlimited fund of courage—the leading woman driver of the present time and only recently returned from her successful participation in the Scottish reliability trials, in which she, of the forty-three starts, was one of the lucky sixteen to achieve a non-stop run throughout all 4 days. This is in itself a testimony of the young woman's pluck, for the route selected by the Scotch A. C. was one that struck fear at times even into the intrepid hearts of experienced male drivers.

As a preliminary training Miss Leavitt did a record scamper to Liverpool and back in her 8-horsepower de Dion, unfortunately catching a severe chill on the way, from which she had just recovered in time for the Scotch event. Last year ill health prevented her from doing as much work on land and sea as she would

have cared to, after her brilliant season in 1903, when she sprang into international prominence by steering a Napier boat twice to victory—at Cowes and Trouville. At the former place King Edward had the captainess presented to him and complimented her on her achievement. At Trouville she carried off the Gaston Menier cup, and the boat she steered was bought up by Henri Deutsch, who has by the bye just presented it to the French admiralty as a vedette. As a conclusion Miss Leavitt drove through the whole of the 1,000 miles trial of the Automobile Club of Great Britain and Ireland and won a beautiful silver cup at the Southport races. She also took part in the recent meetings at Blackpool and Brighton, distinguishing herself in several of the events in which she defeated clever drivers of the male sex. At the Brighton meeting she drove a Napier in a sweepstakes in which she beat none other than Moore-Brabazon, one of the British stars.

Peculiarly enough Miss Leavitt by far prefers power boating to driving on terra firma, despite the continuous wetting to which one is subjected, and this predilection is shared to the full by Miss Jane Larkins, who has adopted the technical side of automobilism and is very enthusiastic on the subject of her work. She has undergone a technical course in the Wolseley works near Birmingham and constantly adding to her experience, instructs the women clients of the firm in handling their cars and carrying out such repairs as come well within a woman's power to accomplish. Being herself filled with an ardor for everything appertaining to the sport, she can readily win disciples, especially as she can convert her words into actions.

Miss Larkins is a niece of that well known authority on marine motoring, Lieutenant Mansfield Cummings, and it was in his care that she ventured forth into publicity last season in guiding a Wolseley boat part of the time during the British reliability trials at Southampton. Her experience so pleased her that she hopes to repeat it this year on the same occasion. The only drawback naturally is the inability of keeping the water out; despite sou'westers and oilskins it kept pouring in, almost blinding her at times with the spray dashing across her face. At last Miss Larkins hit upon the expedient of only opening one eye at a time and giving the other a rest until it was called upon to keep watch!

Both these two sportswomen in the directions they have essayed to follow stand out in bold relief in the present history of the sport and prove that even here woman can be a dominant factor in competition work of this sort.



MISS JANE LARKINS IN A WOLSELEY

RECORDS GO AT THE BLACKPOOL MEETING



EARP IN FLYING KILOMETER TRIAL

London, Aug. 3—As at Brighton, Cissac, the French motor cyclist, and Clifford Earp, one of the Englishmen who drove in the Bennett, were the stars of the 2 days of racing at Blackpool, the former smashing three world's records for the type of machine he rode, developing a speed of 87 miles an hour, while Earp succeeded, after many trials, in equaling the world's best for the flying kilometer, held by Baras and made at Ostend. Cissac clocked 50½ seconds for the standing mile, 35 seconds for the standing kilometer, and 25½ seconds for the flying kilometer. Earp's best effort in an automobile was 21½ seconds for the flying kilometer, a speed of 104.52 miles an hour. Cagno, the Italian driver, took part in the meet, but the Fiat was not working well and he did nothing to attract attention to his work on the course.

Since the end of the meet considerable adverse criticism has arisen over the management and some of the critics declare that the Automobile Club of Great Britain and Ireland succeeded admirably in impressing the public with the deadly dullness of motor racing as a sport. Long waits between heats, palpable faults in starting the cars, innumerable byes, indifferent announcing arrangements and misdirection of the public are a few of the crimes charged. The course itself was well spoken of. It was 3,103 yards in length. The new esplanade between the sea and the old footwalk was used. The course was very wide and of ample width to permit of three cars racing abreast, except only where the road passed the entrance to two of the piers. At each of these spots the road narrowed, while at the same time rising to a hump and sloping away from the piers. Being banked in the wrong direction, the curves had to be taken with caution by the speed merchants.

On the first day the curtain raiser, an event for touring cars in racing trim, with a chassis price not exceeding \$6,250, was won by A. Birtwistle, in a 35-horsepower Daimler, in 1 minute 20½ seconds, with Percy Martin, also in a Daimler, second, 3 lengths back. Birtwistle took the next race, too, in which stripped touring cars less than \$7,500 competed. E. M. Instone, also Daimler, was the vanquished one, but the finish was close, a dog, which had wandered onto the course, being killed, almost causing a bad accident. The time was 1 minute 30 seconds. Earp, Napier, won the racing car trials, best average of three runs over the mile, with flying start, averaging 38 seconds, or 94½ miles an hour. Guiness, Darracq, was second with 40½ seconds, Moore-Brabazon, Mors, third, with 43 seconds; Cagno, Fiat, fourth, with 47 seconds, and Miss Leavitt, Napier, fifth, with



SCENE ALONG THE COURSE

THE
TIMERS
AT
WORK

52½ seconds. Then came Cissac and his motor cycle and the little machine worked up so much speed that the camera shows it finishing with the front wheel clear of the ground. He landed the three records mentioned above. The closing race was for Darracq cars, J. Keele winning it in a 15-horse-power Darracq. He also made second best time in another car of the same make, while F. C. Mar got the prize for third place.

L. Coatalen, in a Humber, with an allowance of 60 seconds, won the Lancashire club's handicap in 2 minutes 5½ seconds. A. E. Lowe, on a Jap, took the tourist motor cycle handicap, with 5 seconds allowance, in 2 minutes 16½ seconds, on the second day. The flying kilometer scratch race for touring cars with a chassis price up to \$6,250, was won by P. Martin, in a Daimler, his average time being 30½ seconds. In the same kind of a race for \$7,500 cars H. Walker, in a

Darracq, proved best, doing 30 seconds. Martin was second with 30½ seconds. The flying kilometer trials for the \$500 prize came last, Earp winning and tying the world's record. It is estimated that 50,000 people witnessed the 2 days of racing along the beach, hundreds of out-of-town cars being in evidence.

Earp's work at the meet was highly commended by all who saw it. That he did not succeed in breaking Baras' record is to be deplored, for he tried hard enough. Not succeeding one way, he started the reverse way, then, after several trials, switched back to the old route. After he had succeeded in tying the mark he kept on in two more attempts, but he had evidently reached his top speed—for that day at least. In the motor cycle class Cissac seems to reign supreme. The ease with which he broke these records makes one suspect that he is far from his limit and that some day he will almost catch the automobile.



BIRD'S-EYE VIEW OF THE COURSE ALONG THE BEACH

SPILL CRIPPLES EARL KISER

Bullet II Skids Into Fence at Cleveland and Its Daring Driver Is So Badly Injured Amputation of His Left Leg Below the Knee Is Necessary—Results of the Races

Cleveland, O., Aug. 12—While numerous spectators have been killed or fatally injured in automobile wrecks, the prominent drivers in the game have escaped with bruises and broken bones. Not until today, when Earl Kiser was picked up after a wreck with a limb smashed as though it had been run over by a freight train, had an American star driver been permanently injured. And an example of the infatuation the game has for the most daring drivers were the words of Kiser to his trainer, Johnny Johnson, immediately after his leg had been amputated by the surgeon:

"Say, Johnny, do you think if I get an artificial leg, I can drive again all right?"

Kiser will doubtless be able to get around with an artificial leg, but he will hardly be in shape to race again this year, for in addition to the crushed limb he suffered a fractured shoulder and a broken arm, not to mention numerous bruises all over his body.

It was a few minutes before the time for the first race that Kiser came out with the Bullet II for a warming up. He received an ovation as he passed the grand stand, after making a slow mile. There were a couple of touring cars on the track and on the back stretch Kiser passed the last of them and opened up for a speedy dash to the tape. He had traveled about half the distance around the lower turn and was running about 15 feet from the pole, when a few of those in the grand stand saw the car

swerve slightly and a second later crash into the inner fence. In its flight it tore down fully 60 feet of fencing and posts, then slipped down a slight depression, coming to a sudden stop in a swampy place where the front wheels sank to the hubs. Kiser was thrown clear of the wreck, which was fortunate, for immediately the gasoline tank exploded and the car quickly became a mass of flames. Only by quick work on the part of bystanders was the old car saved from a final end by fire.

Policemen guarding the fence were the first to reach the scene. Jardine, the Royal driver, who was behind Kiser, stopped long enough to take a hasty glance, then raced his machine to the grand stand, calling loudly for physicians and an ambulance. Pat Hussey, a lifelong friend and former trainer, was one of the first to reach Kiser, and he assisted in carrying the injured driver farther away from the burning Bullet. The outstretched left leg was a mass of mutilated flesh, and it required no surgeon to know that there was no possibility of saving the limb. Hussey secured a strap from a policeman's billy and twisted it tightly around the limb to stop the bleeding.

He was hurried to the nearest hospital and half an hour later it was announced that a telephone message stated that the operation of cutting off the left leg below the knee had been performed and that Kiser was bearing up well.

Not one who witnessed the accident or visited the scene later could form an accurate idea of how it occurred. Kiser himself stated that the machine must have slipped in a soft spot, but careful examination of the track does not bear out this opinion. Everywhere on the turns, as well as on the straights, and except for a few inches from the pole, the track was as hard as cement and never was in finer condition for automobile racing.

The accident resulted in Barney Oldfield's appearing at the Cleveland meet, which he had

previously announced he would not do; the Cleveland promoters having declined to accede to his demands for appearance money, in accordance with the terms of their agreement when the Tri-State Racing Association was formed. The Detroit club, it is charged, violated this agreement and paid Oldfield to appear, but the Cleveland men stood pat. Technically, perhaps, they since went back on their word when they accepted Oldfield's proposition today. He offered to drive an exhibition five miles for \$200 and said he would give the money to Kiser. The promoters not only agreed to it, but said that they would give an additional \$200 to Kiser, making \$400.

Oldfield's generosity towards his unfortunate trackmate was further made apparent when he later got together several prominent officials



OVER THE BUMP AT GLENCOE

and racing men, and offered to promote a benefit meet, to be held at Dayton, O., Kiser's home, some time this month. Oldfield said that he would stand all expenses of promotion and advertising and would compete for blue ribbons, if other drivers would lend their assistance. Among those who volunteered were Webb Jay, Charles Burman, Charles and George Soules, H. H. Lytle, Dan Wurgis, R. Jardine and others.

The curtain raiser was the event for cars weighing 1,432 pounds or under. There were only two entries—Lytle with the Pope-Toledo and Wurgis with the Reo Red Bird. Lytle took the lead in the first mile and finished a quarter of a mile ahead of Wurgis.

The first heat of the \$500 Cleveland Derby was easy for Webb Jay, who ran away from Lytle in his Pope-Toledo. The day's events closed with a 5-mile exhibition by Lytle, in 4:57%, which is said to beat the record for cars of the 1,500-pound class. Summaries of the day follow:

Five-mile, for touring cars with tonneaus—Robert Jardine, Royal, first; Charles Soules, Pope-Toledo, second; R. H. McGoan, Pope-Toledo, third; time, 6:05 1-5.

Five-mile national championship, free-for-all—Charles Burman, Peerless, first; H. H. Lytle, Pope-Toledo, second; D. Wurgis, third; time, 5:15 4-5.

Five-mile exhibition by Barney Oldfield—Time by miles, :56 4-5, 1:55 3-5, 2:53, 3:49 3-5, 4:45 3-5, breaking Glenville track record.

Five-mile Cleveland derby, for \$500 trophy, final heat—Webb Jay, White, first; Charles Burman, Peerless, second; time, 5:43 4-5.

CLEVELAND'S SECOND DAY

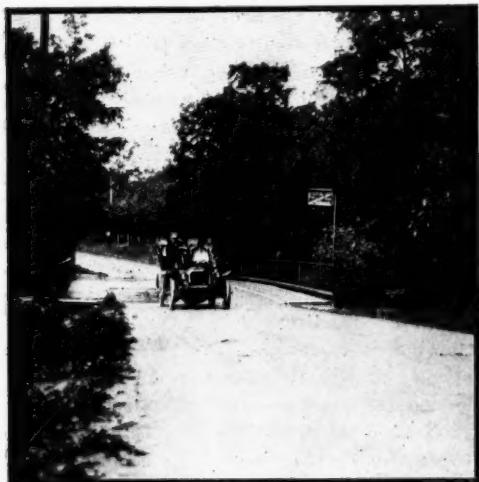
Cleveland, O., Aug. 14—The attendance today was about 2,500. "Rainmaker" Ned Broadwell, of Detroit, who has spoiled races in Buffalo, New York, Chicago, Detroit and several other places, could not be induced to leave the city after bringing rain last Fri-



EARL KISER IN CHARACTERISTIC POSE AND THE WRECKED WINTON BULLET II

day. Barney Oldfield's appearance for a 5-mile exhibition, his head swathed in bandages from his Detroit accident and driving the Green Dragon, which he claims is better than ever, despite the report that it was out of business, was a signal for continued rounds of applause. He went fast enough to break the track record established by Jay on Saturday and his mile in 55½ seconds was the fastest of the meet.

A remarkable race was the five mile national championship free-for-all. Wurgis had the pole. As usual, the White steamer got off like a streak and for about 3 miles it looked very much like a runaway. For a couple of miles Burman's car trailed the field, going badly, then he picked up in wonderful shape. Jay's car suddenly went to



GLENCOE'S SPEED INDUCER

the bad and as it came slowly past the grandstand the front portion was seen to be on fire. Lytle got a good lead over Burman and Wurgis, and held it for a mile, then his car went to the bad. Burman passed Wurgis and won the race.

It commenced to sprinkle and two events were dropped and the final of the Cleveland Derby for the \$500 trophy, which was to have been a 10-mile event, was cut down to 5 miles. Jay and Burman, winners of the heats on Saturday, were the only starters. A few thought Burman had won the \$500, but the White flyer was seen to fairly leap into the air and come galloping to the tape, a winner by five lengths. Then there was a cloudburst and the grand stand laughed at the antics of the drenched officials marooned in the open judges' stand. Summaries:

Five-mile, for stock touring cars listing \$2,000 or under—M. L. Marr, Buick, first; R. E. Hawkins, Goeth, second; R. R. Owen, Franklin, third; time, 7:25 3-5.

Five-mile club championship—C. C. Ferguson, Pope-Toledo, first; M. B. Grover, Royal, second; time, 6:27 3-5.

Five-mile, Cleveland derby, \$500 trophy, first heat—Webb Jay, White, first; H. H. Lytle, Pope-Toledo, second; time, 4:46 1-5.

Second heat Cleveland derby—Charles Burman, Peerless, first; Dan Wurgis, Reo, second; time, 3:15.

Five-mile, open, cars weighing 1,432 pounds or under—H. H. Lytle, Pope-Toledo, first; Dan Wurgis, Reo, second; time, 5:18 2-5.

Five-mile, for Diamond cup, free-for-all—Webb Jay, White, first; Charles Burman, Peerless, second; H. H. Lytle, Pope-Toledo, third; time, 5:16.

Five-mile, for stripped touring cars—H. H. Lytle, Pope-Toledo, first; Robert Jardine, Royal, second; George Saltzman, Thomas, third; time, 4:59 4-5.

Five-mile exhibition to beat record, cars weighing under 1,500 pounds—Herbert Lytle, Pope-Toledo; time, 4:57 3-5.

GLENCOE KEEPS UP WAR

Town Near Chicago Maintains Its Aggressive Fight on Automobilists—Make New Threat

Chicago, Aug. 16—As usual there has been enough doing on the north shore the last week to keep the automobile prominently displayed in big type in the daily newspapers. The bump the bumps at Glencoe was followed by a threat from the same place to turn a fire hose on offenders. Coupled with the tire-shooting order at Evanston, the motorists are assured of lively times when venturing to run up the Sheridan road at anything above a crawl. As a result of all this agitation the drive is not quite so popular in local automobiling circles as it used to be. As usual there was a number of arrests at Glencoe, but the water cure was not administered, the arrests being made by timing the tourists. Glencoe pinched a dozen, Lake Forest nabbed three and Wilmette two. One arrest was registered in Evanston.

In consequence of all this fuss and feathers, there was a noticeable increase in the automobile traffic on the roads west of Chicago. The classic Elgin-Aurora route attracted many for the first time and the beautiful Fox river valley aroused the enthusiasm of those who never before could be coaxed off Sheridan drive. While those going to the west of the city did not encounter boulevards, they had fine country roads to travel over and got a little taste of touring which apparently has only whetted their appetites for more.

Developments during the week were many. Probably the case most talked about was the action of the police of Glencoe in stopping an automobile in which a father was hurrying his little child to a doctor. Carrying the infant, which was reported to be in a dying condition, William B. Drackett and his brother-in-law, C. H. Schleuter, was stopped and compelled to go to the police station and wait 3 hours for the justice, the police refusing to even allow him to take the sick child out of doors. As a result of this alleged police persecution, Drackett now threatens to bring suit for \$25,000 against the village of Glencoe.

The Chicago Automobile Club, it is reported, will unite in the suit against the village.

Oak Park, the suburb made famous by John Farson, came into notice by starting a movement to compel automobiles to stop at street car crossings the same as street cars.

According to the testimony of none other than Frank X. Mudd, ex-president of the Chicago Automobile Club, the town of Winnetka is a model one so far as motorists are concerned. President Arthur Jones has assured Mr. Mudd that Winnetka has never raised a finger against even the most reckless automobilist, that an arrest for fast driving has never been made there and, furthermore, that none will be made if it is possible to avoid it.

"Automobiles have come to stay," Mr. Jones told Mr. Mudd, "and they are a great stride in methods of transportation. The bump action at Glencoe is all wrong because it makes the road dangerous to life and limb of those traveling and also extremely dangerous for the population because it tends to make an automobile driver go slower over the bumps and then endeavor to make up the lost time in the middle of the block, where children are apt to be playing. Besides the bumps take the attention of the driver so he cannot keep a proper lookout ahead and aside."

This announcement of the attitude of President Jones towards automobilists was a pleasant relief to Chicagoans after the weary weeks of trouble they have had with the villagers along the north shore. Glencoe's aggressiveness, however, more than makes up for any friendliness shown by other towns. It is noticeable though, that there are fewer arrests reported along the Sheridan drive, which is taken to mean that the crusade is having some effect.



GLENCOE'S TWO OFFICERS CATCHING TIME—BOY IN THE GRASS WHO GIVES THE SIGNAL

GIVE KIDS A GOOD TIME

Buffalo Motorists Fill 140 Cars With Orphans, Who are Shown the Sights of the Big City

Buffalo, N. Y., Aug. 12—Buffalo's army of motoring enthusiasts was increased by 850 on Wednesday when that number of orphans were entertained by the Automobile Club of Buffalo with a drive about the city, a visit to Athletic park and a trip to Delaware park and the Zoo. It was a happy day all around, for the 140 motorists who lent their cars for the occasion derived as much pleasure as the children from the trip. It was about 2 o'clock when the machines bearing children from seven institutions gathered at the automobile club. Up and down Main street, on Edward, Goodell and Tupper streets the cars were lined for blocks. Each car bore a large number placard and each child in each car wore a tag bearing the number on the car. There was about one nurse or attendant to every twenty children.

At 2:05 up dashed cars bearing 140 children from Father Baker's asylum at Victory hill, a band of twenty-two boys in a big truck leading. Then everything was ready, President Augustus H. Knoll swung his car in at the head of the procession and off they went. The route of the parade was down Main street, to the Terrace, thence up Franklin past police headquarters where Superintendent Bull reviewed the procession and around the semi-circle in front of the city hall, where the mayor stood smiling and bowing. From the city hall the cars made a quick dash along Delaware avenue and Main street to Athletic park, which had been thrown open to the children.

At the entrance to the park the cars crossed a flooring of light boards and when one of the Auto Car Equipment Co.'s big 3,500-pound sightseeing trucks tried to cross there was a crashing of wood as the truck sank into two holes in the floor. After the fifty children had been unloaded from the truck it got into the park but the process of getting the other cars over the patched floor on two extremely narrow planks was slow and tedious.

Once inside, the children steered a straight course for the booth at which Charles Haas was dealing out hot frankfurter sandwiches and big glasses of milk to every boy or girl wearing a numbered tag. Haas gave away more than 1,000 sandwiches and about thirty-five gallons of milk to the youngsters.

The little captains appointed to take charge of the children in the cars in which no attendants rode did their work well and the little flocks went scurrying about the park into all the concessions the doors of which were wide open.

President Knoll, Secretary Lewis, Jesse B. Eccleston, chairman of the club's entertainment committee, E. H. Butler and H. A. Meldrum, governors of the club, took a most active part in trying to give the children a good time. Only one mishap marred the day. One little lad was overcome by the heat and was taken back to the institution in the automobile of L. H. Baker.

After the children had been at the park long enough to make, in the opinion of the attendants who came with them, the happiest day of their little lives, the cars once more did a hurdling act to get out of the park and the party enjoyed a trip to Delaware park where

the children had a great time at the Zoo. It had been intended to take the orphans to Tonawanda, but as much time had been lost in negotiating that treacherous entrance to the park and in getting out again that the country ride was necessarily abandoned.

President Knoll announced after the outing that in all probability the orphans' parade would be an annual feature for the Automobile Club of Buffalo.

Lowell, Mass., Aug. 14—All the town turned out to make the motor car outing of the orphans a success yesterday. Mayor Casey led the parade and the citizens fairly tumbled over each other in their eagerness to see that the affair was done up brown. Fifty-two automobiles, carrying 184 passengers and divided into five divisions, took part in the outing. There was a parade, followed by a frolicsome picnic at Nabnasset pond in the afternoon.

LONG GRIND ON MOTOR CYCLES

London, Aug. 3—in the competition for the cup offered by J. W. Stocks in the Motor Cycling Club's 24-hour race last Friday three men—T. Woodman, on a 3½-horsepower Vincé Special; A. Baddeley, on a 4½-horsepower Baddeley, and R. M. Brice, on a 3½-horsepower Brown—tied for first place and now the officials are puzzled to decide the tie. Sixteen machines started. Six courses were mapped out like a rough star. Each of the arms of the star was exactly 18 miles from the start, or a total of 36 miles out and home, and each arm was ridden over twice in succession. Timekeepers were stationed at the end of each arm, and D. K. Hall was officiating in a similar capacity at the center. A series of rules were drawn up, the principal one being that any competitor failing to complete the outward journey in 1 hour and 30 minutes had to return to headquarters, and was counted in as having completed that course, but had to drop the next. The same condition applied to any competitor not completing the full out-and-home course within 10 minutes of the 2 hours. Competitors arriving at schedule time could leave at once for the next course, but were allowed to avail themselves of the 10 minutes' grace for food, fuel replenishment, etc. Repairs and adjustments were permitted, but no outside assistance was allowed for these purposes.

DEALERS AND MAKERS TO MEET

Buffalo, N. Y., Aug. 12—The directors of the National Association of Automobile Dealers met in this city yesterday to formulate a program for a conference with the Association of Licensed Automobile Manufacturers in New York on August 24. Those present at the meeting were President W. C. Jaynes and Secretary-Treasurer Harry C. Wilcox, of Buffalo; Walter Githens, Chicago; Percy L. Neal, Philadelphia; William M. Murray, Pittsburgh; A. C. Halsey, St. Louis, and F. G. Smith, Detroit. So large an attendance of directors was a gratifying sign to the officers that interest in the new organization is being maintained at a satisfactory level and the report of Secretary Wilcox that the membership is now nearly 100 strengthened the opinion. Several of the directors went from Buffalo to Cleveland to meet some of the licensed makers and arrange for the conference. The dealers refuse absolutely to tell about what they are to confer at the scheduled meeting.

FOUR TIE IN ROAD TEST

Rambler, Reo, Winton and Cleve- land Have Perfect Scores in Los Angeles-Santa Barbara Run

Los Angeles, Cal., Aug. 7—Forty-two cars out of the fifty-eight that started from here Saturday morning in the endurance run to Santa Barbara, finished. Two cups were offered, but it took the committee in charge 4 hours to sift the evidence and finally announce that four cars had perfect scores, 600 points. These were a Rambler, driven by W. K. Cowan; a Reo, driven by D. F. Robertson; a Winton, driven by W. S. Hook; and a Cleveland, driven by Nat Myrick. It was decided that certificates be issued to all four, but that the four winners draw for the two cups.

In the gasoline consumption trial a Franklin car, driven by Miss Dotter, using 1¼ gallons per passenger, and an Autocar runabout, driven by Will Nevin, using 1½ gallons per passenger, were declared winners. In the runabout class, R. K. Hutchins, in a Reo, won with 599 points, with Fred Stamm, in a Ford, second, with 596 points. Ralph Hamlin, R. B. Hain, O. P. Posey, A. M. Goodhue, W. L. Moreland, W. C. Schroeder, Dr. Schiffman, T. P. Izzard, W. A. Peck and E. K. Green were disqualified for not following instructions. This aroused several protests, Hamlin claiming a perfect score and the smallest gasoline consumption, while Holiday claimed the observer's decision was wrong. The latter, Holiday was told, had signed a statement that the wrong road was taken. This was the cause of a heated argument between Holiday and the observer "right out in meetin'." This trouble was the only thing that marred what otherwise was a most enjoyable trip. The officials all worked hard and the thorough manner in which their plans worked out was responsible for the success attained. The control was well handled and accidents were avoided by making each contestant display proper regard for the rights of others.

The start at Los Angeles was made without serious mishap, although there were a few minor mishaps. Ralph Hamlin, in a Franklin, first away, slipped in his clutch at precisely 6:15 a. m. and from that time until 8 o'clock a car was sent away every few minutes. A count showed 200 persons in the fifty-eight cars, only two of the entries scratching. Hamlin stayed in front all the way, finishing at 1:48 p. m., his time, including a stop at Ventura for dinner, being 7 hours 33 minutes. Hamlin, however, was disqualified, it being alleged he failed to follow instructions. Nat W. Myrick, in a Cleveland, arrived at 1:50 p. m. Archie Hoxsey, in a Thomas; C. A. Canfield, in a Pope-Toledo, and G. Lull, in a Tourist, were third, fourth and fifth respectively.

The control closed at 6 o'clock with forty-two machines recorded. No serious accidents were reported, the only incidents out of the ordinary being the scaring of a few farmers' teams, tire accidents and minor mishaps. The country people all along the route were in good humor and showed a willingness to assist when asked. The new grade over Canejo Pass staggered some of the cars, while at Ventura officials held each machine until there was 3 minutes' difference between each car. From Ventura to Carpenteria the road was good only in spots, but from the latter place to the finish 15 miles of sandpapered roads allowed the rear

guard to make up time and the small army of automobiles scooted through Summerland like a flock of birds. The following table shows the list of starters as well as the order of finish:

No.	Driver and Car	Pas-	Fin-
	sengers	ish	
1	Ralph Hamlin, Franklin	2	1
2	Nat Myrick, Cleveland	4	2
3	W. H. Stimson, Cleveland	4	9
4	D. M. Lee, Buick	4	..
5	E. C. Anthony, Stevens-Duryea	4	11
6	Mrs. Bixby, White	4	22
7	H. E. Gilley, Tourist	4	20
8	G. W. Lull, Tourist	4	5
9	R. B. Hain, Tourist	4	35
10	O. P. Posey, Thomas	4	3
11	W. G. Nevin, Autocar	2	8
12	Canceled.		
13	A. M. Goodhue, Rambler	4	21
14	C. A. Canfield, Pope-Toledo	4	4
15	W. S. Hook, Winton Quad	4	6
16	W. L. Moreland, Tourist	2	7
17	Chas. Bentz, Tourist	2	16
18	W. L. Brown, Cadillac	5	18
19	F. Stamm, Ford	2	13
20	George L. Cole, Ford	2	19
21	W. C. Schroeder, Tourist	4	10
22	A. Keating, Franklin	2	31
23	C. C. Smith, Reo	4	..
24	J. H. McDonald, Winton C.	4	15
25	Irene Dotter, Franklin	4	23
26	D. H. Hart, Franklin	4	42
27	P. S. Castleman, Cadillac	5	..
28	G. A. Bobrick, Autocar	4	36
29	Dr. Schiffman, Peerless	4	12
30	E. Jr. Bennett, Wayne	4	..
31	E. Jr. Bennett, Wayne	4	31
32	E. Jr. Bennett, Wayne	4	..
33	Canceled.		
34	J. A. Rossesteel, Haynes-Apperson	2	29
35	W. K. Cowan, Rambler	4	17
36	H. A. Bingham, Reo	4	28
37	T. P. Izzard, Reo	4	25
38	E. S. Osborne, Reo	4	26
39	J. C. Thompson, Reo	4	41
40	R. K. Hitchens, Reo	4	32
41	H. M. Hanshine, Reo	4	24
42	D. F. Robertson, Reo	4	24
43	L. F. Shettler, Reo	4	30
44	C. S. Anthony, Elmore	4	..
45	A. J. Smith, Elmore	4	14
46	William Varney, Ford	4	38
47	W. A. Peck, Olds	2	40
48	H. M. Fuller, White	4	..
49	O. G. Gates, White	4	..
50	J. Harland, White	4	27
51	A. H. Woollacott, Reo	4	37
52	O. W. Bartee, White	5	..
53	H. S. Williams, Elmore	4	..
54	J. E. Owen, Tourist	2	..
55	E. C. Howes, Frayer-Miller	4	33
56	George Bradbeer, Yale	2-4	..
57	Niemann Company, Knox truck	Baggage	..
58	E. K. Green, Reo	4	34
59	James H. Adams, Elmore	4	..

Those not credited with finishing times did not report at the control before 6 p. m.

ENGLAND OUT OF RACE

London, Aug. 5—It was unofficially announced today that the Automobile Club of Great Britain and Ireland had decided not to challenge for the Bennett cup in 1906. This, it is thought, will only make firmer France's determination to wash her hands of the international event. With two countries of such prominence out of the competition it is thought the trophy will have a hard time to keep its head above water. The news of the move of the British authorities was not made public until tonight and so far everyone has been too surprised to talk about the probable effects on the race.

PIERCE LIFTS THE CUP

New York, Aug. 15—Percy Pierce, winner of the Glidden tour competition, received the trophy today at Tiffany's. He will take it to Buffalo, where it will be formally presented to him at the Buffalo Automobile Club banquet on Friday night. Mr. Glidden and all the A. A. A. directors have been invited to attend.

ECONOMY TEST TO HOYT

Motor Cyclist Drives 30 2-3 Miles on Pint of Gasoline at Meet of F. A. M.—Rain Mars the Program

Boston, Mass., Aug. 13—While everyone had a good time last week at the annual meet of the Federation of American Motor Cyclists, the weather man had to put his finger in the pie and somewhat mar the card arranged by the officials. Rain on Wednesday caused the events for that day to go over to Thursday, while again yesterday it was impossible to decide the championships at Charles River Park track, causing a postponement of these until next Saturday.

The track events on the old Waltham cycle track Thursday were productive of no small amount of fun and amusement. The leading men who have been winning honors at this meet were on hand to contend for the prizes, and while old-time professional cyclists engaged in the same class with present-day amateurs, everything went along swimmingly and there was no question raised as to the eligibility of the different contestants. The obstacle race found the track covered with barrels at uneven distances and it was to navigate these with the greatest safety and speed and then to ride 20 feet on a narrow plank in the shortest time possible that caused the men some trouble. Still, Hoyt did it in good shape and won. In the dispatch race the contestants were to take dispatches out of three boxes located at different points on the track and bring the same to the referee in the shortest time possible. In this Kellogg proved the Mercury. The economy contest called for skill and generalship, the idea being to send the machines the greatest possible distance on a pint of gasoline. Hoyt surprised everyone by going 30 2-3 miles with his machine, while Holden, in an Indian tri-car, carrying a second passenger, drove 53 1/2 laps. The summary of the day's sport:

OBSTACLE RACE

F. C. Hoyt, Indian	55	+
Stanley Kellogg, Indian	55	2-5
J. Derosier, Indian	56	
L. E. French, Metz	60	4-5
S. J. Coffman, Yale	60	
W. A. Estes, Metz	60	
George Wagner, Wagner	1:02	3-5
W. H. Latham, Yale	1:03	
L. H. Beck	1:05	2-5

DISPATCH RACE

S. T. Kellogg, Indian	1:14	4-5
J. Derosier	1:15	
W. A. Estes, Warwick	1:18	1-5
S. J. Chubbuck, Yale	1:20	4-5
F. C. Hoyt, Indian	1:22	
S. J. Coffman, Yale	1:22	2-5
George Wagner, Wagner	1:27	
F. O. Ericson, Thoroughbred	1:29	3-5
L. E. French, Metz	1:30	4-5
E. W. Goodwin, Indian	1:40	

ECONOMY TEST

Fred C. Hoyt	92
W. H. Latham	75
A. B. Coffman	67
W. H. Buffum	54
A. Holden	53 1/2
S. T. Kellogg	49
J. Derosier	41
A. B. Chubbuck	30 1/2
E. L. Poland	26 1/2
W. H. Estes	26
F. C. Ericson	24 1/2

There was no regular program for the entertainment of the visitors Friday. The visitors were allowed to follow their own inclinations, and the majority of them toured to the many points of interest in and around Boston.

The motorcycle championships, which were to have been ridden on the Charles River Park track Saturday afternoon were postponed on account of rain, so that the members were forced to return home before they had an opportunity to witness the work of the individual speed merchants. Still, they went away satisfied with having seen a good road race and enjoyed several fine tours over Massachusetts highways.

CAPE MAY GETS STARS

Cape May, N. J., Aug. 14—An international flavor will be given the tournament which is to be run off on the beach here on August 25-26 by the announced intention of Louis Chevrolet to try for the mile and kilometer records and for whatever in the line of competition events his car will be eligible. His mount will be nothing less than the 120-horsepower Fiat racer, which finished second in the Bennett cup race last month, and which only for tire troubles might have tumbled King Thery from his throne. The car has already been shipped, and will arrive here in ample time for Chevrolet to tune it up for the battle with Walter Christie's Blue Flyer. It is just barely possible that while the big fellows are squabbling for the honors a dark horse may slip in and capture the coveted records, for Henry Ford, of Detroit, has announced that he will be on hand with his new racer, which has been kept under cover so successfully, and which will make its first public appearance here. The Fiat, Jr., of Hollander and Tangeman's, which mashed the record for middleweight cars at Morris Park on July 4 last by doing a mile in .55 1/2, has also been entered, and its owners expect it to gobble everything in sight in its class.

THINK THEY HAVE "MR. DOVE"

Chicago, Aug. 15—Chief of Police Collins will send a detective and three witnesses to Brockton, Mass., tomorrow in an endeavor to connect George Lawrence Marsh with the murder of William Bate, the local chauffeur, who was so mysteriously killed near Lemont the morning of November 19, 1904. The chief thinks Marsh is the mysterious "Mr. Dove." Marsh is a former chauffeur of Joy Morton's and the police figure that his movements were so peculiar as to be worthy of investigation. Developments since the charge against Marsh was made yesterday morning, however, lead many to believe the police are on the wrong trail and that the boy will be able to prove an alibi. Marsh is now living in Brockton with his father. His brothers formerly manufactured the Marsh motor cycle it is said.

OLYMPIC SHOW SPACE ASSIGNED

London, Aug. 2—The Society of Motor Manufacturers and Traders, at a meeting held last week, took its first ballot for space and positions at Olympia for the international motor exhibition to be held in November. The total amount of space allotted was about 100,000 square feet, which is about three-quarters of the available space. The number of stands dealt with was 165, including automobiles, motor boats, commercial vehicles, accessories, tires and machinery. The remainder of the space will be balloted for after the August bank holiday. Seventy firms are on the waiting list. The Olds Motor Co. and White Sewing Machine Co. have already been allotted space at the show.

GOOD ROADS MEN MEET

New York-Chicago Commissioners Talk On Improvement of Highways—President Absent

Lakewood, N. Y., Aug. 13—Although they could not prevail upon President Roosevelt to address them because of lack of time, the delegates to the Chicago-New York good roads convention were cheered on Friday by the message of the president:

"You know my great interest in good roads. I wish I had time to address you. I will do all I can for the cause."

Thus encouraged, the delegates, who spent most of the first day of the convention at Chautauqua in the effort to hear the speech of Mr. Roosevelt, got down to work yesterday and held a rousing session. To those from afar were added many Chautauqua county men and summer residents of Lakewood, so that the gathering had a really national aspect. Outside of talking good roads, the convention did nothing.

William F. Aull of Pittsburg, who is spending the summer here, was elected chairman yesterday. In accepting he made the point that good roads were made in China 3,000 years ago and in this country 100 years ago, and that if they could be made then it ought not to be at all impossible to build them now. The farmer, he said, would benefit most by improvement of the highways.

County Judge J. B. Fisher of Jamestown spoke for Chautauqua county, which he said had been somewhat backward in the matter of road improvement. He felt sure, however, that when the people of his county were awakened to the importance of the movement they would go at it with the energy which they show in other things.

State Engineer Frank D. Lyon in a brief address asserted that the much misunderstood highway law of New York state was so elastic that the builders of anything from a trolley line to a dirt road could get state aid in the building.

Senator Horatio Earle, state highway commissioner of Michigan, described the difficulties which beset the workers for good roads during the early years of the movement in Michigan. He himself, he said, had done work for the state highway department at his own

expense because the law had been declared unconstitutional. After a while, however, interest in the work increased, a constitutional amendment was passed and Michigan adopted the policy of aiding communities which improved the roads. Mr. Earle advocated government aid in road building, basing his argument on the fact that the government has expended \$1,500,000,000 in improving waterways. He thought a similar helping hand might be held out to the road builders. He also approved the employment of convict labor in road building saying that in Michigan the convicts could crush enough stone to build several hundred miles of road a year.

Colonel William L. Dickinson, of Springfield, Mass., spoke particularly of the advantages to be gained from the building of a good road from New York to Chicago.

Augustus H. Post of the A. A. A. and Colonel Albert A. Pope of Hartford, Conn., spoke briefly as did several other Chautauqua county men. The convention closed with a banquet at the Kent house last night.

DINNER TRIP TO AURORA

Woodstock, Ill., Aug. 14—Twenty-three cars carrying ninety-three passengers took part in the run of the McHenry County Automobile Club from Woodstock to Aurora, Sunday, the pilot car being the battleship Winnie. The distance is 26 miles and no mishaps were met with outside a few punctures. The start was made from Woodstock at 9 a. m., a stop being made in Elgin to pick up the stragglers. Dinner was had in Aurora and the tourists started for home at 3:30 p. m., the party passing through Geneva, Elgin, Algonquin and Crystal Lake. Those taking part in the trip were: Woodstock—President A. J. Olson, Winton; Treasurer E. C. Jewett, Rambler; F. W. Buell, Yale; John Whitworth, Yale; George Murphy, Rambler; Fred Schuett, Haynes-Apperson; L. T. Hay, Stoddard-Dayton; Dr. E. Windmueller, Haynes-Apperson; M. Sherman, Rambler; C. P. Barnes, Rambler; Walter Burgess, Rambler; H. J. Dyger, Rambler; E. E. Bower, Rambler; W. J. Cruickshank, Rambler; E. A. Beardley, Cadillac. Harvard—Secretary A. S. Towne, Knox; E. B. Manley, Cadillac; E. J. Ellis, Cadillac. Marengo—J. H. Patterson, Rambler; C. S. Barnes, Rambler; O. M. Fuller, Rambler; H. E. Piper, Rambler. Algonquin—John Chewning, Rambler. Ridgefield—N. G. Garrison, Cadillac.



START OF MCHENRY COUNTY AUTOMOBILE CLUB RUN AT WOODSTOCK, ILL.

PUT O. K. ON CUP COURSE

Members of Racing Board Refuse to Alter Route For Vanderbilt Race—Details Arranged

New York, Aug. 14—There will be no change in the Vanderbilt course from the one originally announced for the 1905 contest. This was decided at a meeting of the racing board held here today, at which Chairman Morrell, Secretary Batchelder, A. L. Riker, Windsor T. White, E. H. R. Green, R. L. Lippert and T. H. Hilliard were present. In fact, scant attention was paid to the cable reports of French criticism of the course on the ground that 29 miles constituted too short a circuit. In the first place a change of the course was impracticable owing to threatened opposition by residents of Hempstead, Hicksville and Queens. In the second place a course without stops for controls presents indisputable advantages over a route broken by controls as last year's was. In the third place the last contest was run over a course of about the same distance without the cars finding any difficulty in passing one another. In the fourth place there was a feeling that the alleged sentiment against a so-called short course was manufactured by those seeking an argument or excuse for advocating the further withdrawal of France from international competitions as at present conducted. In the fifth place "it was to laugh" at any objection the choosers of the abominable Auvergne circuit might make. Although he had received no official reply to his letter of inquiry, Chairman Morrell expressed not the slightest fear that France would fail to be represented by a full team in the race.

The start and finish of the race will be at a point on the Jericho pike, over which last year's race started and finished, 1,000 yards west of the railroad crossing at Mineola. The American trials on September 23 will be at 7 laps and the race itself on October 14 at 10 laps. All the turns will be to the left. They were, it will be remembered, to the right last year. By racing in this direction the worst hills will be met up grade. The entire course will be oiled at a cost of \$4,000. The oiling will be begun at once, so that the oil may be thoroughly set by the time of the trials and race.

The grand stand will seat 1,500 people, which is far larger than that of last year. It will be reached by a road from the rear. There will be a parking space for 300 automobiles enclosed at the finish. Alfred Reeves, secretary of the Morris Park Racing Club, will be in charge of the grand and press stands. There will be 300 special constables to patrol the course, which will give more than ten to each mile, or about one to each 160 yards. No one will be allowed to cross the course.

In both the trials and the race itself the cars will be started 2 minutes apart. This will allow the first cars away in each 22 minutes in the trials and 38 minutes in the big race to cover a lap before the last man is sent away. If four complete teams start the chance is that two or three cars will pass the stand before the last one gets off.

The racing board will meet again on September 1. At this meeting the final rules for practice and competition will be promulgated.

Competitors are already engaging their

places along the course. The White people will be at Bull's Head tavern on the northern stretch, the Pope team at Krug's on the Jericho pike, the Fiat flyers at Poirrier's at Garden City. Reservations are also said to have been made for other teams at various inns at Mineola, East Norwich, Roslyn, Lakeville and Hyde Park. It would seem probable that Foxhall Keene would entertain the German team at his country place near the course. The Italians will probably be the first of the foreigners to reach the course. Lancia and Nazari will sail on September 10 and be present at the American trials. Hollander & Tangeman say that Paul Chevrolet, William Wallace and Paul Sartori will be the other members of the team and that all but Sartori, who will pilot A. G. Vanderbilt's 90-horsepower car, will drive 120s of this year's Bennett race type.

READY FOR LONG BRANCH MEET

New York, Aug. 15—Though he complains that entries for the track races at Elkwood park on Friday and Saturday are coming in rather slowly, Senator Morgan reports that the indications point to a great success in the show and 6-day features of the tournaments, which will continue through next week.

S. B. Stevens will drive his 15-horsepower Darracq in the 6-day non-stop and economy test. Acme, Corbin, Peugeot and Freyer-Miller cars are also entered. The 6-day tests will be run over a course of about 38 miles from the West End hotel through Elberon, Deal, Allenhurst, Asbury Park, Avon, Belmar, Como and Spring Lake to Sea Girt, returning to Long Branch and the north through Monmouth Beach to Seabright and back. The ocean drive will be followed as far as possible. There are electric lights all the way down on the 2-mile stretch between Spring Lake and Seagirt.

At a meeting held yesterday the Tire Test Commission for the Burrelle trophy was formed. It is made up as follows: Frank J. Griffin, chairman; Frank A. Burrelle, donor of the trophy; G. A. Wells, Jr., J. P. Holland, J. R. Eustis, A. B. Tucker, secretary.

The commission will meet later for the purpose of making further rules and conditions.

The Maxwell-Briscoe Motor Co. will furnish six uniform cars for the test, calling for 30 by 3½-inch tires, four to be used for the test and two held in reserve. Three shoes and four tubes of each make are to be secured.

BRITONS TEST MOTOR BOATS

London, Aug. 5—Four motor boats started in the eliminating trials to decide the three representatives of England in the race for the British international cup, to be decided September 11 in the Bay of Arcachon. Five had been named, but Hutton II scratched. Napier II, entered by L. de Rothschild and J. S. Montague, was the only one to make the seven circuits which made up the 35-mile course, her time being 1 hour 47 minutes 23½ seconds, an average of 19.8 miles an hour. Brooke I and Competitor, the latter the old Napier Minor, engined with a Siddeley motor, retired at the end of the fourth lap, the former owing to a swamped engine and the latter because of a hot bearing. Napier, entered by Lord Howard de Walden, was put out of it soon after starting by a steering wire breaking. Brooke I, entered by Mawdsley Brooke and Capt. Corbet, had completed 1 lap before Napier II started, but was overhauled.

BAN ON RECORD TRIALS

California Club Offers to Help Prosecute Motorists Who Indulge in Road Speed Tests

San Francisco, Cal., August 8—Defiance of the rights of other citizens is not countenanced by all owners of automobiles, as is shown by the circular letter sent this week by the Automobile Club of California to the various authorities of the counties and cities on the route between this city and Los Angeles—deprecating so-called speed tests by automobiles and offering to assist in the prosecution of all persons arrested for exceeding the speed limits prescribed by the law.

It is probable that the speed trips between this city and Los Angeles are at an end, at least for the time being. Secretary Frey's letter to the chairmen of boards of supervisors, sheriffs of counties, mayors and chiefs of police of the towns lying between the two cities will no doubt put the desired quietus on further record breaking attempts. The communication reads:

"The attention of the Automobile Club of California has been called to the speed tests by automobiles which have been made between San Francisco and Los Angeles. The club deplores these tests, and sincerely hopes that the police authorities of the various counties, cities and towns will see that the persons connected therewith are placed under arrest and punished for exceeding the speed limits provided for under the law of the state of California governing the operation of motor vehicles upon the public highways. The club will, upon request, assist in the prosecution of any person who may be arrested on this account."

The present record for the 500-mile no-stop run between this city and Los Angeles is held by George A. Hensley in his White steamer.

ANOTHER TRIP FOR MEGARGEL

New York, Aug. 15—Now it is to be an across-the-continent-and-back run. Percy F. Megargel, who recently completed a run to Portland in the Oldsmobile runabout race, is here to make it. He only awaits the arrival of a 16-horsepower Reo, which was shipped from the factory at Lansing, Mich., yesterday, to start in the long run. He hopes

to get away by Friday morning. The Reo Mountaineer, as the car that is to make the trial has been baptized, is to be equipped with instruments to measure speed, mileage, grades, altitudes, etc.

Ray M. Owen, sales manager of the Reo Motor Car Co., announces the objects of the trip in the following statement:

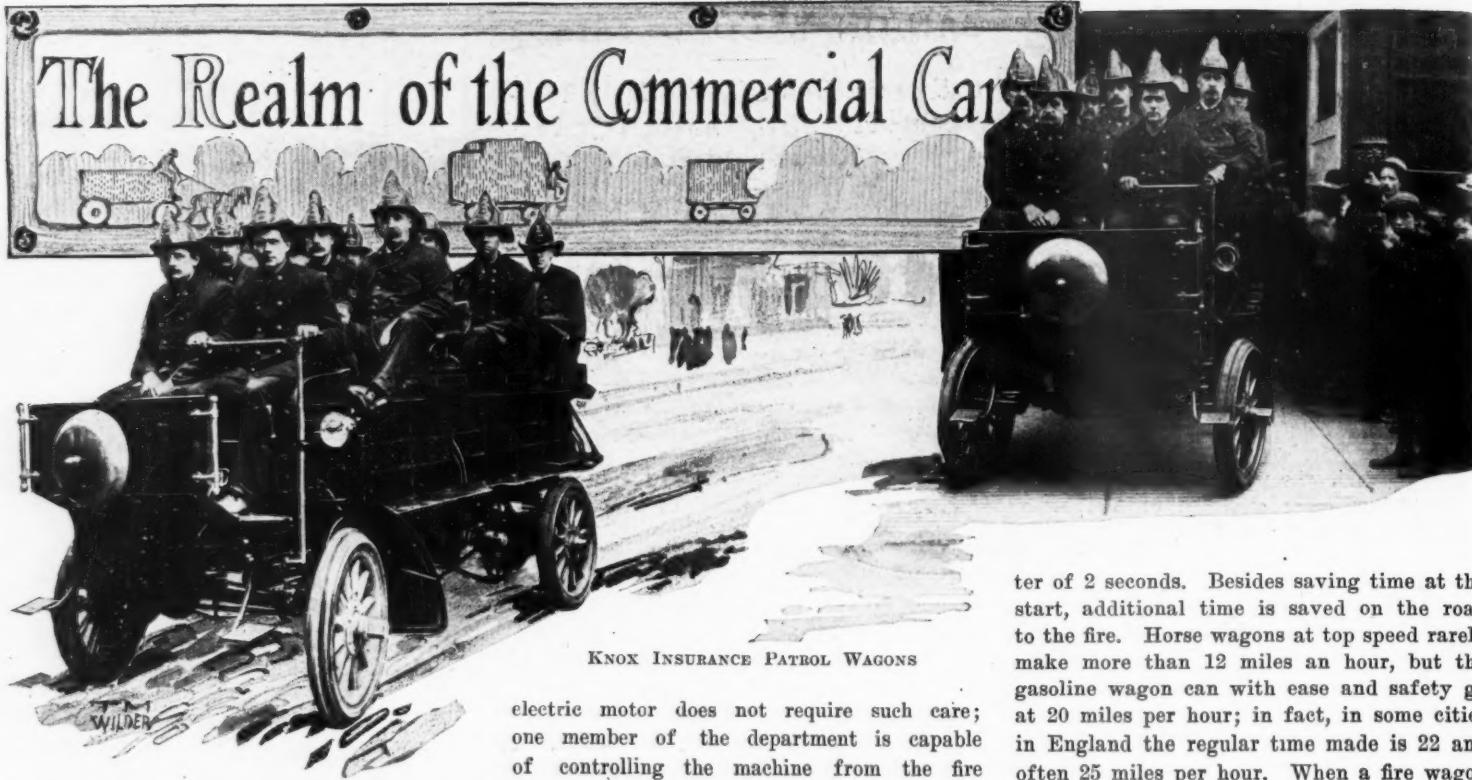
"Megargel will keep an accurate and complete report on all roads, grades, fords, stopping places and gasoline supply houses between this city and Portland and between San Francisco and Philadelphia. He will be accompanied by David Fassett, one of the most skilled mechanics of the Reo factory and a man selected by Mr. Megargel for his endurance and staying powers as well as his skill as a mechanic. It took 51 days for Megargel to drive his last car across the continent. Figuring on 51 days each way and 10 days for the Portland-San Francisco trip, it will be 112 days before the Reo Mountaineer and its crew arrive in New York again. That would mean December 4. This is the first of a series of exploration tours being planned by the American Motor League."

NEW ENGLISH ROAD BILL

London, Aug. 2—It is believed that an epoch-marking measure has been introduced in the House of Commons by Arthur Stanley, who last Wednesday filed a highways bill, which plans a revolutionary change in the management of British roads. The bill asks for the establishment of a highway commission for England and Wales, and for the amendment of the laws relating to highways and bridges. The principal objects are: To create a central department for the purpose of assisting the local highway authorities; to increase largely the highway powers of the county authorities; to provide for the construction of new main roads through and out of the large urban districts; to protect the interests of the rate-payers by providing that suburban districts shall be laid out according to some definite plan under which new trunk roads of adequate width shall be built and the existing ones widened before building operations commence, and so render unnecessary costly street widening and improvement schemes; to amend the law relating to the maintenance of bridges. Among other things, the bill gives power to the highway commissioners to classify certain roads.



REO CAR IN WHICH MEGARGEL WILL MAKE HIS LONG JOURNEY



FIRE AND INSURANCE PATROLS

Few fields are more favorable for the use of the motor than is that of the fire department in cities of all sizes. The horse has long reigned supreme in this field, but in some countries the beginning of the end has arrived and the much admired equines, that have for so long dashed up and down city streets with their glittering harness, with highly finished fire engines belching continuous volumes of fire and smoke with volcanic effect and with flashes of fire struck from the stony pavement with the ironed hoof, are doomed to a certain end.

The maintenance of horses for drawing fire engines to and from fires, as well as for drawing hose wagons, chemical extinguishers and ladder wagons, is an expensive proposition. Horses must be fed whether working or not and persons must be engaged to feed, groom and care for them whether they are busy or idle. Herein lies the secret of the adaptability of the gasoline, steam or electric motor for these uses. The gasoline motor, when not in use, is not consuming fuel, but lies dormant with not a single item of maintenance expense save the space required for housing it. When needed one turn of the starting crank sets it in motion and the next second it is ready for a run of 1 or 50 miles. The steam horse-drawn engines now in use are different—the horses have to be kept in perfect condition every day, a special attendant has to be hired to care for them, the harness must be hung ready for instantaneous use and an expert kept to maintain steam in the engine and fire up. When a fire takes place a driver is needed all of the time, first to drive the horses, then to care for them during the fire and lastly to return to the fire hall. The gasoline or

electric motor does not require such care; one member of the department is capable of controlling the machine from the fire hall to the fire and once there and the motor started working on the pumps no more attention is needed, the man being free to aid in coping with the conflagration. The gasoline motor car will carry sufficient gasoline to run the pumps for several hours, whereas with the horse-drawn steam engines a coal supply wagon has to accompany the department and distribute coal several times during a fire. This necessitates another horse and wagon and also an extra driver.

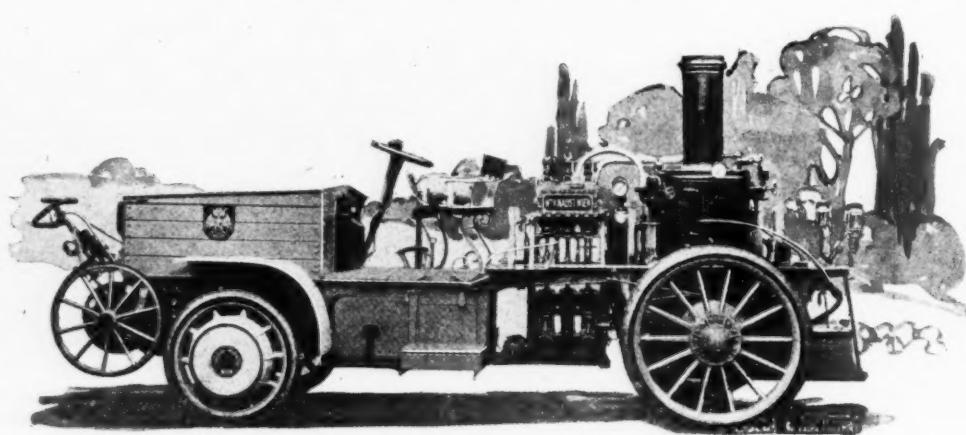
But in addition to the saving of expense by using the gasoline and electric motor, in not requiring a special driver, a special stable attendant, a special engineer for feeding the motor during the fire and for a special coal supply man during the fire, there is the further advantage of the great saving in time, and at no other time is the saving of a few minutes of greater importance than in the early arrival at a fire. Early arrival means the work of extinguishing the fire shortened perhaps many minutes and often several hours, as well as thousands of dollars saved in property. The gasoline engine, hose or fire extinguisher wagon can be moved out of the fire house in 3 seconds after the alarm is turned in. The time occupied for the members of the force to mount to their places is the only time required, the starting of the motor being practically a mat-

ter of 2 seconds. Besides saving time at the start, additional time is saved on the road to the fire. Horse wagons at top speed rarely make more than 12 miles an hour, but the gasoline wagon can with ease and safety go at 20 miles per hour; in fact, in some cities in England the regular time made is 22 and often 25 miles per hour. When a fire wagon passes along a street the police clear the thoroughfare and prohibit traffic on intersecting street crossings, giving a clear course for the fire wagons and rendering a fast pace safe. The time saved is considerable. A horse wagon going to a fire 1 mile distant, from the engine hall, traveling at 12 miles an hour, requires 5 minutes to make the trip and a motor wagon at 20 miles an hour needs but 3 minutes—a saving of 2 minutes in the mile. In many cases this saving can be increased by running at a faster pace. Add to this the time saved in a quick getaway from the fire hall and the saving becomes very considerable, sufficient to warrant the use of motor engines and hose wagons.

With the use of the chemical fire extinguisher, the general forerunner of the fire engine, the adoption of gasoline as a motive power is still more apparent. The speed of the horse-drawn extinguisher rarely exceeds 14 miles, while with a gasoline engine 30 to 35 miles per hour is quite feasible. An extinguisher can readily be attached to any light touring car chassis and a speed equal to that of the ordinary pleasure car made. The hook and ladder brigade is never so speedy, the unwieldy nature of the outfit necessitating slower movements, but even here the possibility of a quicker getaway and a faster speed is commendable.

Last, but by no means least, the use of the motor for propelling the hose wagon cannot be overlooked. This wagon must go faster than the engine in order for the men to be early at the scene of the fire, have the hose stretched in place, and ready for attachment to the pumps.

Fire chiefs have used the runabout car for service for several years with excellent success, the greater speed made and the



VIENNA STEAM MOTOR FIRE ENGINE

greater safety with which they can be handled being leaders in proclaiming their use.

The control of a motor wagon, as compared with horse vehicles, is a nowise mean merit. At no time is dexterous control more imperative. Often streets are thronged and quick stops as well as turns must be made. The rubber tired wagon driven by the gasoline motor can be stopped in less than half of the distance required for bringing the horse outfit to a standstill when traveling at the same speed.

The Fire Insurance Patrol company located at 176 Monroe street, Chicago, under the management of Superintendent E. T. Shepherd, has on trial a Knox wagon fitted with a passenger box for patrol work. The wagon has been on trial for over a week, in which time it has made five successful runs with no further trouble than the breaking of a battery wire on one occasion, which necessitated a 5-minute delay. As can be seen in the illustrations, the wagon is not especially made for patrol duties, but is an ordinary commercial chassis with a passenger box with cross seats attached. The patrol superintendent has for some time been looking for a motor wagon capable of carrying a load of 5,000 pounds, this load being too great for a team of horses. The work of the patrol is attending all fires with the object of protecting merchandise and other goods from being ruined by water, fire or smoke. The patrol wagon carries a large quantity of tarpaulins for this purpose, as well as a dozen men to do the work. There are eight companies scattered throughout the city, each of which attends fires in its respective district. As prompt service is required as with a fire patrol and a fire alarm similar to those in fire halls is used.

Horse wagons have been used for this work heretofore, and are also used at the present time, the Knox car acting, for the present, as an adjunct, although it has made three of the five trips alone, the horse wagon accompanying it on two occasions. If it proves successful the intention is to install a larger wagon permanently and dispense with the use of horses in this hall. The longest run made from the down town station on Monroe street is 1 mile and it is on such runs that the motor wagon will show its great superiority over horse-drawn wagons. The time saved at starting is a matter of 10 or more seconds. With the horse team 12 seconds are required to hitch the horse in place after the alarm is received and it is expected to reduce this to 2 seconds at the most. The superintendent is talking of the installing of an electric system for starting the motor so that the instant the alarm is received an electric circuit is closed and the motor immediately started by a power device, leaving nothing to be done but the men to mount to their places and start off. The wagon is fitted with solid rubber tires.

The corporation of Leicester, England, owns a Wolseley hose wagon which accommodates ten men. The chassis carries a 24-horsepower four-cylinder motor, with a three speed and reverse sliding gear transmission. From the gear case final drive is through double side chains. The body differs from that on any other vehicles. The hood has its sides and front formed by the pipes in the horizontal tube radiator. Within a low curved metal dash are the coil, oiler, commutator and clocks. The men ride on the



WOLSELEY CHEMICAL WAGON

sides and rear platforms. The former, one on each side, are 1 foot higher than the running side board and accommodate two on each side. On the rear platform two or three men can stand and there is room for one beside the driver, the driver also acting as a workman at the fire. In the center of the rear platform of the body is a 50-gallon chemical extinguisher and above it, on a reel, 160 feet of hose. On either side of the rear step is a large hand chemical extinguisher, which can be carried by one man. Solid tires are used on the rear wheels and pneumatic tires on the front wheels.

A light made fire extinguisher wagon, of the gasoline type, is built by the Merryweather company, of England, some of which are used in Europe and Africa. The vertical motor is housed beneath a forward bonnet, and the drive is through a friction clutch, sliding transmission gear, and double side chains. Solid tires are used on the front and rear wheels. Not more than four men are carried on it, one beside the driver on the front seat and two on the rear step. Three hundred or more feet of hose may be carried behind the seat, and on the rear step is a pair of hand extinguishers. This company also manufactures a combined extinguisher wagon, hose reel and fire escape, the wagon being longer and heavier than the other. The fire escape is carried on the top of the body part, leaving the two high wheels that it carries high above the road. When unloading it the front end is slightly raised, allowing the wheels to rest on the street, after which it

is backed away. Solid rubber tires are used.

In Germany electric, steam and gasoline fire wagons are in common use. The Lohner-Porsche electric hose wagon is propelled by two 5-12-horsepower motors driving the steering wheels, the current coming from eighty-four cells of battery carried beneath the seats at the rear of the driver. This battery location permits of four men riding on each outwardly facing side seat, three on the back step and two on the front seat, one of which acts as driver. Any reasonable amount of hose is carried near the back, some on a large central reel and smaller quantities on smaller side reels. The carrying of a fire escape or ladders is made possible by an iron frame work behind the front seat and another at the back, on which the ladders rest, being sufficiently high to clear the men's heads.

The use of steam power in driving fire engines is perhaps the simplest method of motorizing the horse-drawn fire engine. The boiler is there and all that is needed is side drive chains and sprockets on the shaft driving the pumps as well as a lever to throw the road wheels out of gear when using the pumps and vice versa. The Merryweather company has built a great many of these and they are giving satisfaction. They differ from the old horse-drawn types in that provision is made for carrying four or five men on a seating platform near the driver and considerable hose is also carried beneath this platform, so that the engine is to an extent independent of the hose wagon should the latter become unexpectedly delayed. Machines of this class have been supplied to the fire department of Worcester, England. They are capable of traveling 20 miles per hour and of pumping 400 gallons of water per minute. Paraffin is used for fuel.

LAUNDRY DELIVERY WAGON

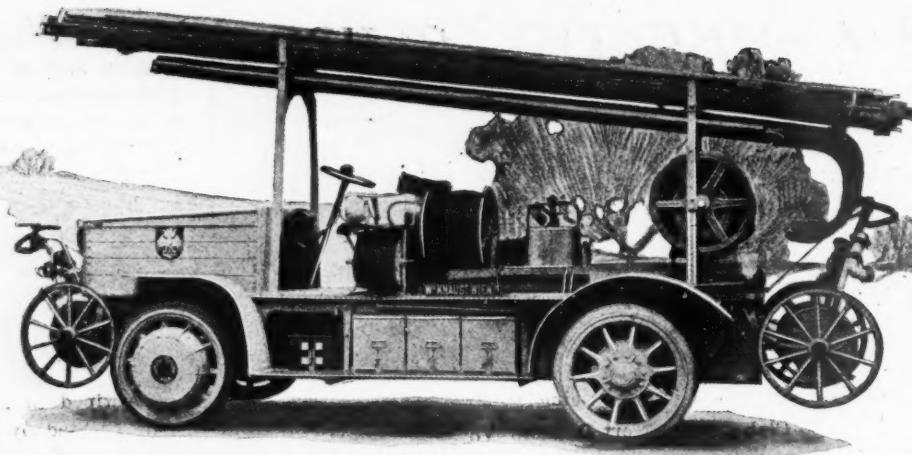
E. A. Hunt, the well known Syracuse laundryman, has been using since June 1 an electric truck made by the Electric Equipment Co., of New York, and purchased through the Ranier Co., also of New York. The truck, which weighs about 3 tons, is used to collect and deliver laundry from and to the hotels of Syracuse, and has given the best of satis-



LOHNER-PORSCHE HOSE AND CHEMICAL ELECTRIC FIRE PATROL

faction while it has been in service. It carries 25 bushel baskets of laundry and makes six trips a day between the laundry and the downtown hotels. The average daily mileage is 30.

The truck is now doing the work of two wagons and two horses, formerly used for the same purpose. One man less is employed, making the service more economical. Another advantage of the electric vehicle is that it will outlast several wagons. It is equipped with solid rubber tires. Besides being a good advertisement for the laundryman it collects and delivers the laundry so promptly that the hotels are greatly pleased and will continue to give their business to Mr. Hunt. The ma-



VIENNA ELECTRIC CHEMICAL AND HOSE WAGON

chine is handled by a man who used to drive one of the horse wagons. The other man's services were dispensed with.

Mr. Hunt met the problem of charging economically by putting in a plant of his own

at the laundry. The original cost of the plant was \$300, which will be saved in a short time, and then the cost of charging will be comparatively nothing. He used the power of the laundry to run his 40 ampere generator and ample electricity is generated to charge two cars at the same time. He also owns an electric runabout, which he charges at the same plant. The big truck is charged every morning, the process taking from 3 to 4 hours.

The only trouble experienced thus far has been with batteries. At first the cases cracked, but they were replaced with heavier cases and no further trouble has been experienced. The Exide battery has forty-four cells carried in front.

COMMERCIAL STEPPING STONES

Carries Bread—The Marsten Luncheon Rooms, located on Hanover, Summer and Washington streets, Boston, Mass., have received two Pope-Waverley electric wagons for delivering bread stuffs and pastries to all parts of the city.

Automobile Express—The merchants of Wapakoneta, O., are discussing the project of establishing an automobile express service from that town, taking in a circuitous route to Uniopolis, Waynesfield, New Hampshire and St. Johns, giving twice-a-day service.

Ousts Four Horse Carts—Paris has secured the services of a motor watering cart that is doing the work of four of the horse-drawn variety. The sprinkler travels 6 miles per hour and sprinkles such streets as the Champs Elysees in two turns.

Doing Business—The Chicago Commercial Auto Mfg. Co., of Harvey, Ill., has sold a 7-ton truck to the Chicago Telephone Co.; a 5-ton truck to Fuller & Rice, of Grand Rapids, Mich.; a 2-ton truck to C. H. Lepage, of Quebec, Que., and a 16 passenger sightseeing car to the Standard Automobile Co., of Pittsburgh, Pa.

Has Inspection Car—The Grand Rapids and Indiana Railroad is using an automobile inspection car in inspecting the road. The car made a successful trip last week, carrying eight passengers and running at over 50 miles an hour. The car is specially handy in inspecting the miles of tracks in the different yards and junctures of the company.

Competing With Street Cars—Sioux City, Ia., has the pleasing prospect of being motorized by commercial sight-seeing cars and omnibuses that will take the place of street cars in certain parts of the city. This condition will be brought about by the Sioux City Auto Omnibus Co., which will be formed from among the leading citizens of the place. The purpose, at present, is to run lines of buses at 15-minute intervals on Jackson street between Twenty-ninth and Fourth streets for a 5-cent fare. In other residential parts, where trolleys are not within six blocks of many residents, the automobile buses are to be introduced. In addition to omnibuses

on regular scheduled service many sight-seeing wagons will be used. Lines out of the city will be established to Morningside, Smith's Villa, and other suburbs.

Gasoline Railroad—The first gasoline railroad to be promoted in Ohio secured a charter last week to build a line from Lima to Marion. The company will be known as the Lima & Eastern Railway Co. of Lima, the capital being \$100,000. The incorporators are Frederick H. Oleson, C. H. Campbell, A. A. Shaffer, C. D. Shobe, Robert A. Kean, Nicholas Pond, F. E. Baxter and A. L. Freet.

On 30-Day Test—The Packard truck is making a 30-day demonstration for the Frank Parmelee Transfer Co., of Chicago, Ill. The truck is daily in service over streets in all parts of the city carrying loads of from thirty-five to forty trunks, which have to be picked up from places in all parts and distributed to homes or depots in other parts. The truck is working from 7 in the morning until the same hour in the evening, with often only 15 or 20 minutes off at noons. On August 3 it traveled 51½ miles, averaged 10¾ miles per hour, made sixty-five stops, consumed 4½ gallons of gasoline and ½ pint of oil, making the cost of fuel for the day 47 cents. Its actual running time for the day was 4 hours and 48 minutes, its elapsed running time 10 hours and 15 minutes and its time consumed in stops 5 hours and 27 minutes. The performances on five succeeding days were very similar, its mileages for them being respectively 56½, 51¼, 49, 50 and 50. The stops made on these days were sixty, seventy, 120, sixty-four and seventy-one. The

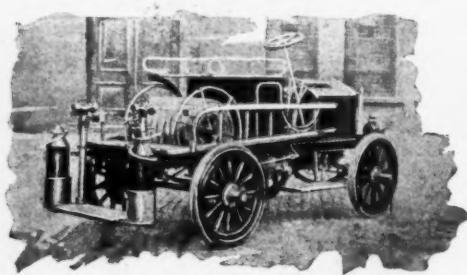
average speed for the respective days was 11, 10 8-9, 10 ¼, 11 and 10 8-9 miles per hour and the cost 47, 52, 53, 51 and 53 cents.

Transfer Line Organized—An automobile transfer line has been organized in Fort Wayne, Ind., by a number of men in the city. The intention is to commence running a number of automobile vans and buses to meet all incoming trains and connect with outgoing ones.

Car To Carry Mail—C. C. Beaty, a liveryman at Milton, Ia., is planning to run an automobile line for the accommodation of the public. Beaty also has the contract for delivering the mail to the farmers for Uncle Sam and he figured that a motor car would come in mighty handy in this line of his business.

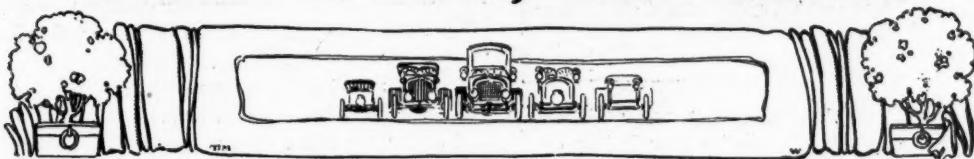
Carries Twenty-five—A twenty-five passenger bus has been purchased by the Gallipolis Co. from the Logan Construction Co., of Chillicothe, O. The bus has a four-cylinder opposed motor capable of generating 37-40 horsepower. A sliding gear transmission is used. The bus runs between Gallipolis and Point Pleasant, 5 miles, meets ten trains daily and makes other trips. The motor is carried beneath the seat and drive is by double side chains, each covered by a sheet iron casing. The bus is of typical omnibus lines with a full quota of side curtains for wet weather. Solid rubber tires are used.

Received Third Wagon—Fuller & Fuller, wholesale drug merchants of Chicago, have this week received their third delivery wagon from the Knox Automobile Co., of Springfield, Mass., through its Chicago branch. The wagon has a 12-horsepower single cylinder motor and is fitted with a covered body with paneled sides at the bottom and wire forming the top part. It is less than 3 months since Fuller & Fuller commenced using their first wagon. The work of the machines consists in delivering merchandise to retail druggists in all parts of the city. The value of the machines to them consists primarily in the rapid delivery possible. Often retail druggists run short of goods in the forenoon, they telephone an order and in less than 2 hours have the goods.



MERRYWEATHER GASOLINE CHEMICAL WAGON

GOSSIP AMONG THE CLUBS



Hoosiers on Dinner Run—The Automobile Club of Indiana announces that its first regular dinner run from Indianapolis to Cartersburg Springs, a distance of 21 miles, was a success and that an attempt will be made to repeat it every other Saturday.

Refused Offer—The Automobile Club of America has refused an offer of the country residence of James Hazen Hyde, near Babylon, L. I., as a suburban club house. The excavations for the club's city house on West Fifty-fourth street have been completed and the work on the foundations has begun.

Going to Move—The directors of the New York Motor Club inform the members that they are seriously considering moving the rooms of the club from Bretton Hall to a more central location in the automobile district, also that they are preparing an attractive program for the coming autumn and winter, when the club will keep up its activity.

Jaunt for Long Islanders—So well pleased with the economy tour in June are the members of the Long Island Automobile Club that they are now planning a 2-day jaunt. The first day's run will be from Brooklyn to Shelter Island. An evening run will be to East Marion and Orient Point. The next day they will drive from Shelter Island to Sag Harbor, thence by way of Bridgehampton and Southampton along the south shore of the island and then back home again.

Tests Speed Judgment—In the way of a novelty on a race program the Manchester Motor Club of England has introduced a test in the way of speed judgment that reminds one of the blind bogey matches played by the golfers or the sealed handicaps of the old days of cycling. As applied to motoring, it is carried out as follows: Before the start each competitor is given the speed rate he is supposed to make for a certain unknown distance. No one, except the two timers, know just how far each car is to go. One of the clockers gives the word, while the other hikes up the road a bit and hides. The competitor strikes the gait he has been told to make and starts for his unknown finish. He has only his own judgment to follow, for the timer in

hiding snaps the watch on him secretly, so he does not know how far he is to go. After all the entrants have had a try the two timers get together and figure out the results, the one whose time works out nearest to the speed named being declared the winner.

Fort Dodgers Want Club—Efforts are being made to form the Fort Dodge Touring Club at Fort Dodge, Ia. The enthusiastic ones are mapping out a campaign for the new organization which will include tours to Dubuque, Sioux City and other points, as well as a series of road races.

Bay Staters Eat Clams—Members of the Bay State Association enjoyed a picnic run and clam bake at North Dartmouth, some 40 miles distant from Boston Saturday, passing the night at Lenox and returning Sunday. The race committee of the club has at last secured the Readville track and will hold a race meet at that place on Labor day. Eliot C. Lee, president of the Massachusetts club, will be invited to act as referee, while Chairman Morrell and Secretary Batchelder have both accepted invitations to act as judges at the meet, which will be on the circuit.

Hustlers in Bloomington—Because of the fact that it promoted the tour of the motorists from the southern part of Illinois, which took place last week, the Bloomington Automobile Club is just now prominent in the eyes of the westerners. Twenty years ago the Bloomington Bicycle Club was organized and for a long time was a prominent factor in wheeling. With the dying out of interest in that sport, the organization became the Illinois Club. Now the old cyclists are prominent in the automobile organization. The club can only boast fourteen members, but what is lacked in numbers is more than made up in enthusiasm for the new sport. Three of them own cars they built themselves. The organization was perfected April 11, 1903, and Samuel P. Irwin is president. Charles Cooper vice president, Charles W. Diets secretary and treasurer, while the board of directors is made up of Ernest W. Martens, John A. Beck, Walter Johnson, William Courey and W. K. Bracken. The first automobile seen in the city was displayed by Mueller, of Deca-

tur, 9 years ago, when he gave an exhibition at the fair grounds in the machine in which he defeated Duryea in the preliminary to the Chicago Times-Herald race, over the Libertyville course, which was really the first automobile race ever run in this country.

Seeks a Track Site—At present it looks as if the Automobile Club of Pittsburgh would locate its race track on a 12-acre plot owned by the Denny estate and located at Cheswick on the Allegheny river. Final action on the matter will be deferred until the vacation tourists return to the city.

Antipodean Automobilists—Sixty members are boasted by the Automobile Club of Australia, which is showing considerable energy in promoting gymkhanae and tours. The majority of cars in use are of French make, 25 per cent of them being Darraeqs. It is estimated that the value of cars belonging to club members is \$250,000. The club is most enterprising and recent reports from the other side of the globe tell of many tours planned for the summer and fall.

Calls Off Fall Meet—The Minneapolis Automobile Club's proposed fall race meet is off. Asa Paine, chairman of the racing committee, returned Monday from his trip through the east, and after a conference with President Joyce, announced that there will be no race meet. "The Minneapolis Automobile Club does not wish to traffic in human blood and human life," was the statement given out by Mr. Paine. He was present at the Detroit meet, when Barney Oldfield was injured, and at the Cleveland meet, when the Kiser accident occurred. As a result of these two casualties, the Minneapolis meet is abandoned.

Hospitable Rockford—Rockford, Ill., is now quite prominent on the western automobile map because of recent tours. The Rockford Automobile Club figured prominently in the recent tour of the down-staters to Chicago, while on the St. Paul tour the town was one of the bright spots, its hospitality greatly impressing the members of the touring party. N. F. Thompson is president of the Rockford Automobile club, O. W. Johnson, vice president; H. W. Dickerman, secretary, and Arthur W. Robertson, treasurer. George O. Forbes, Duncan Rogers, B. A. Slade, James Rogers, Gus Boeland and Dr. Garretson were on the reception committee and H. W. Dickerman, J. H. Camlin, H. W. Williams, Lloyd Scott and Arthur Robertson on the entertainment committee when the St. Paul pilgrims passed through.



START OF AUTOMOBILE CLUB OF INDIANA ON DINNER RUN

From the Four Winds



FRED E. GILBERT'S RACING RAMBLER
To Tour to Coast—Mr. and Mrs. Joseph Frolinger, of Atlantic City, and Dr. and Mrs. Frolinger, of Schwenkville, Pa., are planning an automobile trip across the continent to the Pacific coast. They propose to start early in September.

Open Door in Japan—The federal government has been advised that under the Japanese customs regulations, if it can be shown that automobiles have been used prior to importation into Japan and are to be used exclusively for touring purposes, they will be given free entry, upon oath or declaration of the owner, in the same manner that other personal effects are entered.

Diplomats In Cars—That American cars and Yankee chauffeurs are all right seems to be the sentiment of the representatives of Japan and Russians in attendance at the peace conference at Portsmouth, N. H. The Pope Motor Car Co. has provided several Pope-Toledo cars and experienced drivers for the use of Envoy Witte and Baron Rosen, of Russia, and Baron Kamura and Minister Takahira, of Japan, and the diplomats are appreciating the luxury of rapid transportation in the latest mode of locomotion provided by President Roosevelt.

Raise Ban in St. Paul—The park authorities of St. Paul have won an everlasting place in the estimation of the motorists of that city, by throwing open to automobiles the river parkway, running from Marshall to Summit avenue, along the east side of the Mississippi. This parkway has been one of the few forbidden bits of roadway in the Twin Cities. It is an excellent boulevard, winding along on the high bluff above the Mississippi, and commanding an excellent view. Hereafter it will be up to the St. Paul Automobile Club to see that the use of the parkway is not abused by fast driving, and that the maximum speed of 8 miles an hour is not exceeded.

Stops Doctor's Car—The other day Dr. Lothrop, a prominent physician of Boston, while answering an emergency call to a patient in Walpole, drove his car through the Dedham trap in faster time than the law permits. He declined the invitation of a policeman to hold up, and the latter immediately pulled a gun on him, so the doctor came to a stop. He explained to the policeman the cause of his hurry and called his attention to the fact that he carried a Geneva cross on both his lanterns. The policeman did not see the full value of these and insisted upon the doctor going to court, where he paid \$15 for violating the speed law. The physicians are now up in arms against this latest crusade and say that if the public will willingly

submit to such practice they are satisfied, but still they contend that where it is a case of life or death the police should be compelled to use some little judgment of their own and not go according to the strict letter of the law.

Society Puts Up Bars—Mackinac Island, famous in the west as a summer resort, is reported to have barred automobiles, while the aristocratic residents of Bar Harbor, Me., have petitioned that the present regulations be continued and motor cars compelled to keep outside the town.

Fremont Talks Meet—The committee in charge of the arrangements for the observation of Labor day, at Fremont, O., is arranging for an automobile meet at the Sandusky county fair grounds. The committee is corresponding with the large factories in Toledo, Cleveland, Clyde, Detroit and elsewhere, endeavoring to have the factories send their racing machines and chauffeurs to the county seat town for the day.

Making Maps—Robert W. Spangler and Sidney J. King, of Chicago, have undertaken the task of preparing automobile route guides for the motorists of the United States. They will prepare guides between different towns and cities which will give a detailed description of the roads, the turns, grades, character of the road bed and the distances. The hotels, garages, repair shops and gasoline stations will also be published in the guide book. The two men are at present making routes out of Detroit, using that city as a hub, the routes radiating in different directions for 100 or more miles. They started last Saturday with a Reo car and expect to cover about 10,000 miles this fall.

Car for Rural Carrier—Gerhard Melchoir, a rural mail carrier, residing in St. Paul, and covering a 23-mile run out of the Bradley street postal station in that city, is one of the few rural carriers in the country who has made the automobile the special emissary of Uncle Sam's postal service. Melchior works an Oldsmobile on his route. He leaves the Bradley street station, at the corner of Bradley street and East Seventh, at 9:15 o'clock in the morning, and with good roads to work on, he can roll in at the finish by 1:30 in the afternoon. The average mail carrier on a rural route cannot complete his day's trip before 3:30 or 4 o'clock. The Bradley street carrier covers over 22½ miles. He serves 160 families at 110 mail boxes, and carries into the country 142 daily morning papers. He is able to work through the whole delivery without stopping the engine. Melchior keeps one horse in addition to the automobile, but has not been forced to fall back on the horse as

yet. Profiting by Melchior's experience, a new carrier at Tracy, Minn., is about to put an automobile into service to take the place of a horse.

Banquet for Pierce—Thursday night of this week the Buffalo club will have a big parade and on Friday night Percy Pierce will be banqueted, this in honor of his having won the Glidden trophy.

Kaffirs on Motor Cycles—The advantages of motor traction are beginning to be appreciated in South Africa. In the upper part of Kaffirland a service of motor cycles has recently been established, ridden by natives, to carry the mails from Mount Frere to the outlying stations and on to Kokstadt, a distance of 70 miles.

British Motorphobia—So strong has the feeling against scorching motorists become in England that the cables report that the Highways Protection League has made it a campaign issue, asking each parliamentary candidate, "Are you against automobiles?" At a meeting these resolutions were adopted: "That owners of automobiles convicted of scorching be sent to prison without the option of a fine; that in a case of a conviction, when both chauffeur and owner are in the car, the owner be sent to prison instead of the chauffeur; that the speed limit in any part of England be reduced to 10 miles an hour, and that all automobiles be ordered to use bells instead of horns."

Cry for a Good Road—One of the greatest drawbacks to automobiling to and from Atlantic City hitherto has been the miserable condition of the old road across the meadows from Pleasantville to the seaside resort. Philadelphia automobilists have complained long and bitterly over the condition of this road, and last week they induced the Hotelmen's Association of the resort to prod the board of freeholders in an endeavor to expedite the completion of the new road now being constructed across the meadows. Litigation and mistakes in estimates and materials have delayed the completion of this much-needed highway, which was to have been finished before the opening of the present season. As a result of the hotel men's efforts it is reported that work on the road will be pushed forward with all possible speed, and that it will probably be thrown open to travel early in September.

Making Australian Record—Touring over Australian roads is far from pleasant, judging by the account just received of the record-breaking trip from Melbourne to Adelaide of W. Russell Grimwade in an Argyll car. It took 5 days to drive the 613 miles and the experiences of the motorist make interesting reading. He started with Guy Smith as companion and before they had gone 20 miles they encountered a heavy rain storm so that for the rest of the day's journey, 181 miles, the car plowed through water, the roads being submerged. The second day they traveled 86 miles to Mount Gambier, 14 miles being over a course where no road existed and which was under water. The third day was over the Coorong track, which runs along the sea coast. Many miles of the road were lost to view under the drifting sands and most of the steering was done by compass. Thirty miles were through tussock grass varying from 2 to 3 feet in height. Despite these handicaps, the car maintained an average speed of



8 miles an hour. The fifth and last day found them on good roads and 108 miles were done in less than 5 hours. This is the first time this trip has been made, two other attempts having failed.

Floridans Like Sport—Automobiling in Jacksonville, Fla., is reported to be even more popular than last year and many recruits have been gained this summer, Fred E. Gilbert, the Rambler agent there, is one of the leading spirits.

Car Helps Lawyer—Attorney J. H. Leggett, by driving his automobile from Buffalo to Niagara Falls in 35 minutes stopped the granting of a franchise to the International Railway Co. for the construction of a trolley line in that city. A special meeting of the common council had been called for 1 o'clock to grant the franchise, an injunction against the action having been dissolved. But Mr. Leggett got another injunction and after his speedy drive arrived just in time to prevent action by the aldermen.

Another Prize for France—One prize was almost lost sight of in the running of the Bennett race—the Montagu trophy for the best aggregate team performance. Scott Montagu, of England, donor of the trophy, has declared France the winner for 1905, but in case France abandons the Bennett race he will alter the rules governing the gift. The trophy was hung up to eliminate the chances of one individual winning the Bennett cup and getting all the credit when possibly two or three cars of the same country and same make also finished the race second and third.

A Motoring Paradise—There is at least one spot in Missouri which is a paradise for motorists and that is Jasper county, which includes the Joplin district and the beautiful county seat, Carthage. Free from prosecutions and persecutions, the seventy automobile owners of the county can do pretty much as they please, most of them not even taking the trouble of paying the license fee, which in this county is the lowest in the state, being only \$2 a year. It is provided that the money thus collected goes towards the road fund, the county clerk not even getting a commission for collecting the fees. Consequently he does not care whether the motorists pay their license. There are 465 miles of gravel roads in the county exclusive of the towns, and there is not a break, ditch or rut in the whole length. Of the seventy cars in the county there are but four of this year's models, the others all being 2 or 3 years old. Almost all the cars are owned by miners or mine opera-



ST. PAUL'S MOTORING MAIL CARRIER

tors, who drive them from 30 to 50 miles daily, rain or shine, summer or winter. The county itself has a yearly appropriation of \$60,000 for road improvements, and it costs the county only \$2,000 per mile to put the roads in fine shape.

Job for Oldfield—The-managers of the Pennsylvania state fair at Allentown, September 5-8, have secured Barney Oldfield for a series of record trials at 1, 5 and 10 miles. The track is a half-miler, and Barney will endeavor to beat the world's figures of 1:11%, made July 20 last at Toledo, O.

Invents a Timer—A. L. McMurtry, of Ormond timing apparatus fame, has been inventing again. This time it is an automatic timer for the use of the drivers of automobiles and horse-drawn speed wagons. It consists of a timing watch connected by levers with the wheel of the vehicle and a foot pedal. Without taking his hand from the reins of the steering wheel, a driver can press his foot on the timing pedal and set the watch going. At the end of a self-measured mile the watch is stopped automatically and the time is indicated.

Busy Year for Yankees—International competition for the year will be completed with the running of the Vanderbilt race, which will make the seventh clash of United States sportsmen with Europeans. Of the six already contested two American victories have been scored—both of them by the yachtsmen. The transatlantic ocean race was won by Skipper Barr in the Atlantic, the Vesper crew was badly beaten in the Henley regatta, France captured the Bennett automobile cup, the rifle match between the Seventh Regiment and the Westminster Volunteers resulted in another American defeat, while England also succeeded in holding the Davis tennis trophy against all comers. The sixth event was the contest for the Seawanhaka cup which has been returned to this country after an absence

of 9 years through the defeat of the Canadian boat by the Manchester, representing the Manchester Yacht Club.

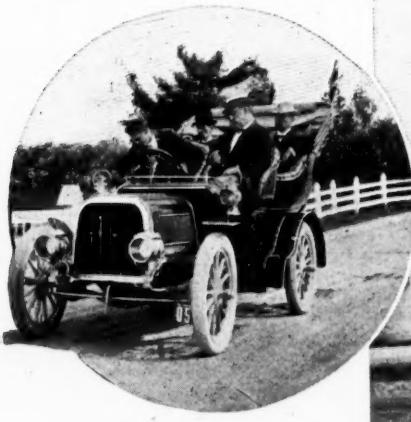
Motor Mileage Fiend—Philadelphia has a mileage fiend in the person of one John A. Gallagher, who last week, despite three rainy days, made five round-trips in his White car to Atlantic City and wound up the week with a trip to New York and back. His itinerary for the present week includes a trip to New Bedford, Mass., and return.

Atlantic City Bills Meet—Not to be the matter of beach racing, Atlantic City will come to the front with a 2-day carnival, which it is hoped will attract all the stars, including Christie, Oldfield and Chevrolet. The carnival is scheduled for Saturday, September 2, and Monday, September 4, Labor day, and will include fourteen events—seven on each day—for cups and plates aggregating \$1,600 in value.

Trouble Brewing—There is trouble brewing in Minneapolis. The aldermen of that city, in their efforts to serve out justice, are about to pass a resolution granting to owners of horses, mules, zebras, and other animals used for transportation purposes, the right to maintain the same speed upon the streets of the city as do the automobiles under the city regulations. This means that a man can drive a horse at the rate of eight miles an hour through the crowded portion of the city, and at the rate of 25 miles an hour in other portions of the town. Automobile drivers are waiting to hear a long wail from those who do not know how much havoc a horse can create when he is maintaining a speed at which an automobile is readily controllable.

Ministers Use Motor Cars—Three of Detroit's 1,564 licensed motorists are ministers, Rev. John McCarroll, rector of Grace church, and dean of the Detroit diocese; Rev. A. H. Barr, of Jefferson Avenue Presbyterian church, and Rev. E. H. Pence, of the Fort Street Presbyterian church, owning cars presented to them by their respective congregations. They all sing the praises of the automobile, claiming that the amount of practical christianity made possible by these modern vehicles in the parish work of a pastor is out of all proportion to their number in use. Answering sick calls in the night, gathering up and delivering clothing and supplies to the poor of the parish and giving sick people and neglected street urchins rides are a few of the uses the ministers put their cars to, the Detroit ministers say.

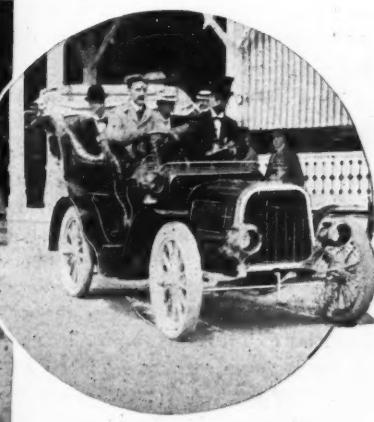
JAPANESE ENVOYS AND THEIR LEGAL ADVISER



M. WITTE AND BARON ROSEN IN REAR SEAT



JAPANESE ENVOYS LEAVING HOTEL



JAPANESE AND RUSSIAN PEACE COMMISSIONERS AND THEIR SUITES USE POPE-TOLEDO CARS AROUND PORTSMOUTH, N. H.

AUTOMOBILE DEVELOPMENT



THE POPE-TOLEDO LANDAUET

The adoption of the landauet type of body as one of the popular designs in automobile body building is already quite apparent. The motor car chassis lends itself well to carrying a body of this type and the general body lines are attractive except where the driver's seat is too near the rear and the enclosed compartment over the back seat too small.

The landauet recently put on the market by the Pope Motor Car Co., of Toledo, O., makes use of the regular Pope-Toledo 30-horsepower chassis, is equipped throughout like this machine, and weighs 2,900 pounds. The top can be raised or lowered by a simple device much easier operated than the usual style of top. The rear seat is upholstered in dark colors and surrounding it are such requisites as speaking tubes, disappearing mirror, draw curtains, card cases, magazine rack and electric lights. The doors are broad and open towards the rear; in entering use is made of a second step, covering the side drive chain. When desired the front glass in rear of the driver's seat can be lowered and the top left up. With the top lowered and the front part of it remaining stationary the rear seat is protected against the wind and dust. The front seat is not divided nor is it in any way protected by forwardly projecting canopy. The bonnet and body sides are similar to the touring car, the back part of the rear seat not being of the King of the Belgians type, but provided with square corners, the seat part being well curved outwards.

The finish of the car is one of its features, the one in fact, that appeals very strongly to prospective buyers. Black or other colored leather is used in upholstering the front seat, and brown, royal purple or blue broadcloth is made use of in the cushion, back and sides of the rear seat; the use of heavy brass railing around the curved metal dash and sides of the front seat is effective, and is in keeping with the headlights and sides of the radiator.

The running board on the sides unites with the rear fenders, but at the front end terminates before reaching the fenders over the front wheels. The sprockets on the ends of the differential counter shaft as well as the chains are covered by sheet metal casings. Beneath the front seat are four carrying compartments in the form of small lock drawers, in which tools

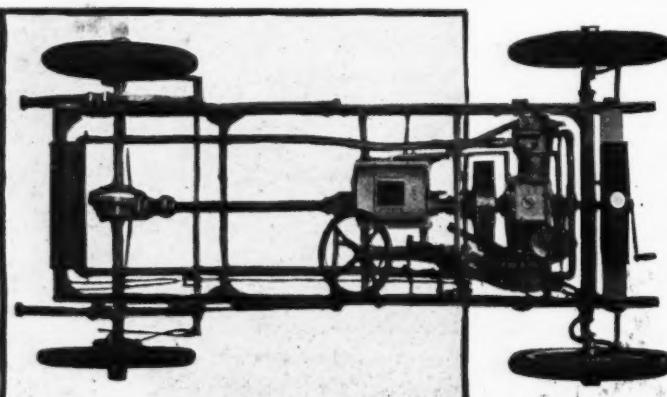
POPE-TOLEDO LANDAUET

and other repair necessities can be carried. The addition of small square-shaped lights at the ends of the front seat adds a touch of carriage life to the machine.

A NEW CANADIAN CAR

The motoring possibilities of Canada are yet unknown, but the initial efforts, shown in car construction across the border show clearly the direction the wind is blowing. The Canada Cycle & Motor Co., of Toronto Junction, Ont., a development of the cycling days in Ontario, is on the market with the Russell car, a five-passenger double side entrance vehicle with a two-cylinder opposed motor placed crosswise beneath the bonnet. The tonneau is detachable, permitting the car to be used as a light runabout. The chassis is strongly constructed and several Canadian concerns are using it for light delivery work, suitable bodies being attached.

The main frame is built up with armored wood, heavy corner plates being used as reinforcements. The side pieces are parallel throughout and are held together, midway of the end pieces, by two cross pieces, one for carrying the steering gear and other operating parts and the other for adding rigidity near the back axle. The use of a three-point suspension is made possible by mounting the frame on two full elliptic springs in the rear and using a cross semi-elliptic spring in front. This cross spring is directly above the front axle and is double shackled at the ends to give as much freedom of movement as possible. A short sub frame carries the motor gear case.



CHASSIS OF RUSSELL CAR

The front axle, of the reinforced type, is straight throughout, carrying at the ends drop-forged steering knuckles. The axle is strengthened by the use of side radius rods extending from brackets on the frame midway of the car. By means of turnbuckle the tension of the rods is varied. The rear axle carries a bevel gear differential near the center, the axle shaft being divided at the differential. By this construction, no weight is carried on the drive shafts, the casing or axle housing bearing all the weight of the car, as well as strains and driving torque. Steel is used in the casing and the using of truss rods beneath increases the strength. Ball bearings are used throughout the axle, as well as for the end thrust within the differential. The gears within the differential are so mounted that the differential casing may be removed without interfering with the car. By removing the hub caps the drive shafts can be drawn out, leaving the differential bevel gears in place.

The power plant is a double-opposed motor placed transversely behind the front axle. The cylinders are $4\frac{1}{4}$ by $4\frac{1}{2}$ inches and at a speed of 1,000 revolutions per minute 14 horsepower is generated. The motor is of typical horizontal type throughout. The cylinders are separate castings with the walls, with the head and valve port cast integral. The ports are on the top of the cylinder ends, with automatic inlet valves at the front of the port and exhaust valves at the rear. The latter are actuated by push rods from a cam shaft directly above the crank shaft and within the crank case.

The cylinders have straight cut sides and carry the usual compression rings. The crank shaft is a drop forging, with throws set at 180 degrees. The connecting rods are drop forgings with eye holes for the piston pins and caps on the crank shaft ends. All bearings are channelled with triangular grooves to aid in lubrication.

A float feed carburetor is carried in front of the right cylinder and from this a pipe leads to the front center of the crank case, where it branches, with a branch going to each inlet valve, necessitating the mixture going to each cylinder traveling an equal distance. The control of fuel to the valves is regulated by the altering of the opening of the valves, an operation accomplished either by governor or from the steering column. Ignition is by jump spark, with current generated by storage battery or dry cells. From the batteries the current passes to a two-vibrator coil on the dash, from which it is distributed to the spark plugs in the cylinders by a timer on the cam shaft.

In the cooling of the motor are used integral cast water jackets and a cellular radiator carried on a forward projection of the side pieces of the main frame. From the radiator the water is drawn by a pump, located on a continuation of the crank shaft, and delivered to the front sides of the water jackets.

Oiling is by splash lubrication with separate sight feed leads to the bearings and connecting rods as well as to the cylinder walls. The oil tank, a

copper box, forms the cover of the crank case, a place adopted because of the even temperature, serving for both summer and winter use.

The motor with the transmission gear case is carried on a sub frame of triangular shape. The side pieces of the frames are secured to the side members of the main frame just behind the front axle, and extending rearwardly converge towards a point in the center of the frame where they receive the arms of the transmission gear case and also terminate, being riveted to a cross piece of the main frame.

Separate exhaust pipes lead from the exhaust valves, parallel to the side pieces of the frame, to a cylindrical muffler carried transversely beneath the back of the frame. A cut-out is used.

Within the fly wheel is a small clutch, there being sufficient room remaining so as to make the spokes of the wheels fan shaped for creating a draught and dispensing with the use of a fan in the rear of the radiator. The clutch is coupled by a universal shaft with a sliding gear transmission, carried in an aluminum case. Three speeds ahead and one reverse are given. The direct drive on the high speed is gained by using dental faced gears, the front sliding gear on the main shaft carrying teeth to mesh with similar teeth on the rear face of the gear on the clutch shaft. Both main and counter shafts in the case revolve on ball bearings. Lubrication is attended by a bath in the bottom of the case, the oil being supplied by a special lead from the oiler. The gears are shifted by a small lever on the steering column, the four speeds being obtained by use of it alone. Drive from the gear case is through a double jointed propeller shaft, the rear joint being a sliding as well as universal joint.

A double set of brakes is used on the rear hubs. One set of the external expansion variety works within the hubs and is applied by pedal. The other set, of friction bands working on the exterior of the axle drum, is applied by a lever at the right side of the car. Both sets are operated through the same cross rod on the frame near the rear wheels, one set being connected with the rod and the other with a sleeve carried by the rod.

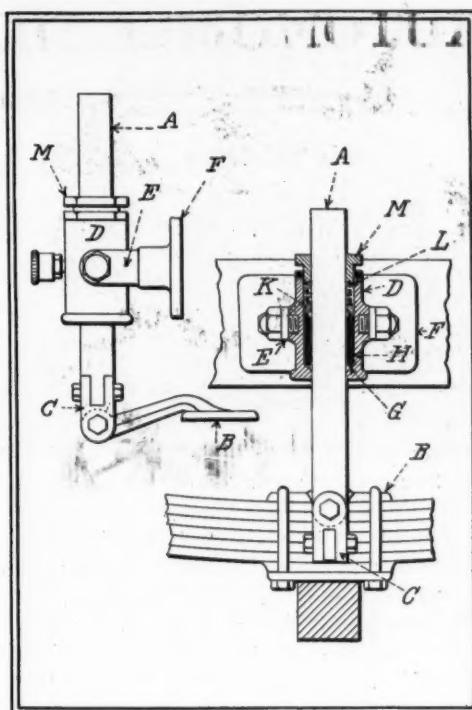
Steering is through an irreversible steering gear fitted to an inclined steering column. The rod connecting the steering knuckles passes in front of the axle. The other controlling features of the car are throttle and spark advance on the steering wheel and clutch pedal.

The body is standard throughout. A touring car bonnet forms the front and terminates in a straight dash. The double side entrances are wide and open to the rear.

NEW FRENCH SHOCK ABSORBER

The Confortable is the name of a new style of shock absorber brought out in France and one which has already worked into popularity in certain parts of the country. Like most other devices of this nature one is attached to each of the four springs of a vehicle. It is essentially a friction device, consisting of a vertical rod, connected by universal joint to the spring, passing through a metal cylinder attached to the frame of the car. Within the cylinder are four clamping jaws that create friction between the rod and the interior of the cylinder and by means of which the abrupt rebounds of the car are lessened.

The steel rod A is fastened at its lower end to the center of the spring, or to one side of it before or behind the axle, through the bracket



DETAILS OF FRENCH SHOCK ABSORBER

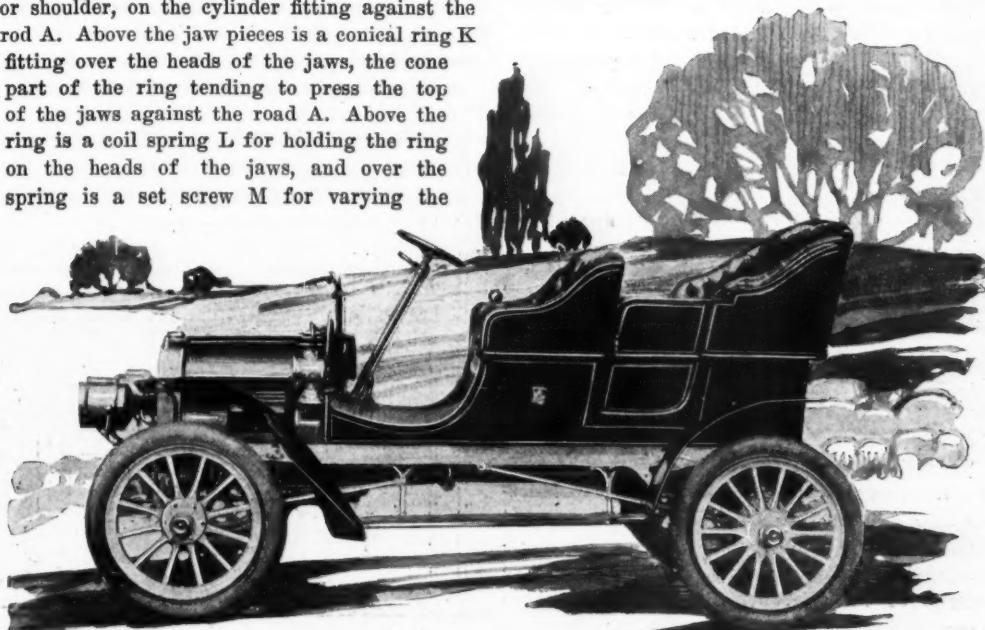
B, intended to be bolted or clipped around the spring, and the connecting link C, which being pivoted at one end to A and pivoted in the opposite direction at the other end to B, permits of a movement in any direction capable of caring for all of the irregular movements of the car. The rod A passes through the short steel cylinder D, tempered and carefully ground in the inside. The cylinder's diameter is considerably greater than that of the rod A to allow of the use of four phosphor bronze clamping jaws H which form a circle around the interior of the cylinder and in short act as a lining in the lower part of the cylinder. The rod A bears against these jaws. The usefulness of the jaws is dependent upon their shape. It can be seen that at both ends they are slightly rounded like the points of a dull lead pencil, or more properly like the edge of a very dull wedge. The back of each jaw is slightly bow-shaped while the face, bearing against the rod A, is a straight edge, being concaved to fit closely against the rod. These jaws are retained in the cylinder at the bottom by having the latter cone-shaped, there being a cone G, or shoulder, on the cylinder fitting against the rod A. Above the jaw pieces is a conical ring K fitting over the heads of the jaws, the cone part of the ring tending to press the top of the jaws against the rod A. Above the ring is a coil spring L for holding the ring on the heads of the jaws, and over the spring is a set screw M for varying the

adjustment of the coil spring. When heavy loads are carried in the automobile and the rebounds of the car will be considerably increased, the set screw is set down, increasing the tension of the spring and also increasing the friction between the jaws and the rod A. The cylinder D carries on its outside two arms for pivoting the forked piece E to it, the piece E in turn being oppositely pivoted to the bracket F supposed to be rigidly bolted or riveted to the side pieces of the car's main frame. This double pivoting gives the top of the device as much freedom as when a universal joint is used.

When in operation and the automobile is running the four jaws H being rounded at their extremities will press themselves more or less on the sides of the cylinder, slipping on the inclined parts of the cone shoulder at the base of the cylinder, being continually pressed upon by the coil spring. With the oscillations of the car the rod A will easily and regularly move up and down, the movement in no case being jerky because of the resistance offered by the jaws. An oil cup is carried by the cylinder from which lubricant enters the cylinder in the vicinity of the jaws.

NEW MULTIPLE OILER

The Auto Brass & Aluminum Co., of Flint, Mich., manufactures a sight-feed oiler which is belt driven from any shaft of the motor. The exterior of the oiler is similar to many now on the market in that it includes a rectangularly shaped reservoir with a row of any number of sight feeds on the top. The feeds pass out through the rear of the reservoir and through the dash, permitting the reservoir resting tight against the dash. The pulley for driving is on the end of a shaft extending through the dash. A sectional view of a four-feed oiler will serve to illustrate its construction. Any number of pumps A are arranged in the bottom part of the reservoir and within them are pistons operated through the cross head B. Between the center pair of pumps is a large supply pump C. The cross head is actuated through the eccentrically cut strap D made integrally with it and which is guided at the bottom by the pumps and at top through the boss E. The pump plungers are driven through the worm F on the driven shaft of the oiler, and the worm drives into the wheel G, solid with



SIDE VIEW OF THE RUSSELL CAR, A CANADIAN PRODUCT

the shaft H, on which is the eccentric K. The pump and all driving parts are suspended from the top of the reservoir through the framework L.

The oil in the reservoir is drawn into the large pump through the opening M in the bottom and forced through the pipe N to the end of the header or common space O. At the opposite end of the header is a poppet valve for letting oil escape back into the reservoir when the pressure exceeds a certain point. From the header the oil flows into the sight feeds, its entrance into them being controlled by the nipples on the top of the reservoir. The oil drops into the tubes P, from which it is drawn by the small pumps through the valves Q, and then forced out again through the tubes R. These tubes enter holes in the flange S, which holes correspond with others, with a gasket between the flanges, so that the cover and mechanism inside can be removed without interfering with the connections. On the end of the reservoir is a glass gauge for showing the quantity of oil in the reservoir. Small suction holes T are used for breaking up any partial vacuum which might form within the case. The capacity of the larger pump is slightly in excess of that of the smaller ones combined and the latter work at a speed of 1-48 the speed of the driving worm.

MOTOR CAR LITERATURE

The G & J Tire Co., of Indianapolis, Ind., is circulating a facsimile of a dozen or more commendatory letters on its tires. The letters are secured at the top by a heavy cord and enclosed in an envelope-like cover.

Grout Bros., of Orange, Mass., have a small poster on their new gasoline automobile. The center contains a large photograph of the car and beneath it is a schedule form, containing the specifications of the machine.

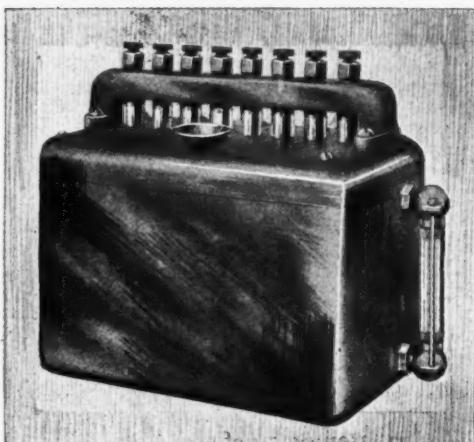
The Wallace Barnes Co., of Bristol, Conn., manufacturer of small springs and dealer in wire and cold rolled steel, has a forty-page, two color, catalogue on its products. The illustrations are in dark and the printed matter in light brown.

The Gilbert Mfg. Co., of New Haven, Conn., uses a neat poster in advertising its tire case. The poster is in red and black and shows an automobile girl holding a Gilbert tire case up in front of her, the case forming a circle around her head.

The Billings & Spencer Co., of Hartford, Conn., has a comprehensive forty-page catalogue on its steering knuckles, steering posts, yokes, steering connections and wrenches. The steering mechanisms are shown in section and working drawings of many parts are included.

The Alphabet Petite Library is a dainty little silk-covered volume that was distributed to the Glidden tourists by the American Artisan. The booklet on alternate pages contains short quotations from the leading writers of Europe and America and on the intervening pages letters of congratulations and commendation.

Walk-Over tire sleeves made by the More-Power Co., of Lowell, Mass., are illustrated and described in a four-page leaflet circulated by the manufacturer. The sleeves are made of rawhide, fitted with patent hooks for lacing, by means of which the sleeve is fastened to the tire and rim. The sleeves



NEW OILER OF THE AUTO BRASS COMPANY

are made with plain and metal studded treads for use on plain or studded tire treads.

The Buckeye Mfg. Co., of Anderson, Ind., manufacturer of the Lambert car, has a single sheet folder on its automobile products. One side of the folder is given over to the illustrating of all models, as well as the method of friction driving, and on the other side are reproduced newspaper clippings of the performance of the Lambert car during the St. Paul tour.

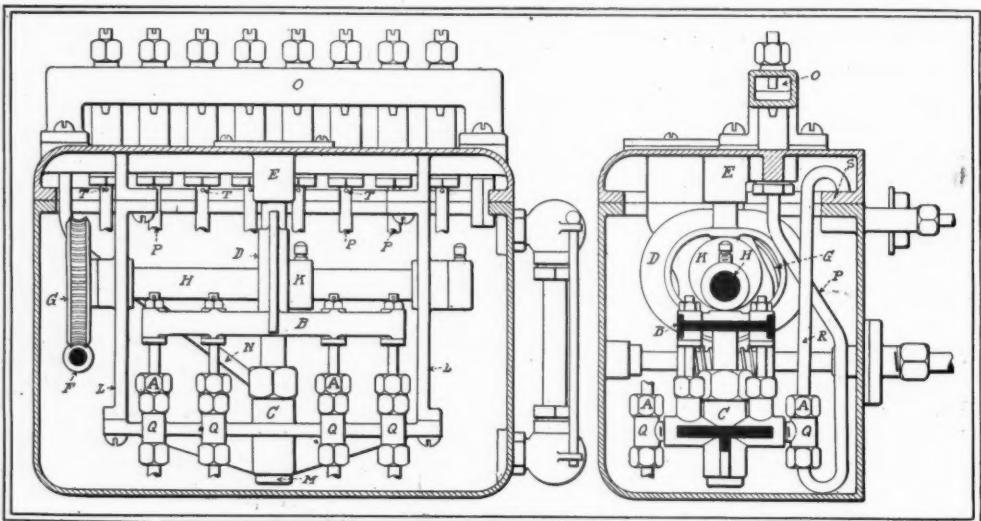
Gasoline tanks for carrying extra supplies of gasoline when making long rural tours are manufactured by Janney, Steinmetz & Co., of Philadelphia, Pa. The tanks have 5 and 10 gallons capacity and are made fireproof, eliminating any danger of explosion in case of an accident. The cylindrical form is used and the measurements of the different tanks range from 4 to 8 inches in diameter and from 10 to 24 inches in length. They can be carried in any convenient place in a car, being attached by steel straps.

With the hope of protecting motorists from detention and possible arrest by policemen who imagine they are exceeding the speed limits the Jones Speedometer of New York, manufacturer of the Jones speedometer, has manufactured a small circular metal tag to be attached to the rear of every car carrying a Jones speedometer. The object of the device is that policemen on seeing the tag to be attached to the rear of every car equipped with a speedometer, will be more certain of the speed of the car before making an arrest. The tag is 3½ inches in diameter and has stamped on it the name of the manufacturer and a statement to the effect that

the automobile is equipped with a Jones speedometer. With a fast moving machine it would be difficult to discern the tag from a distance.

Michelin & Co., of Clermont-Ferrand, France, the makers of Michelin tires, use some very clever advertising matter. The booklets and posters appeal to the humorous side of the sport and are generally novelties in construction. One is a four-page folder, which, when closed, resembles a book, but on opening a rubber man, made out of Michelin tires, rises from behind a banquet table and with glass high in hand laughs to the success of Michelin tires. Another neat folder is made in irregular shape and when opened shows on one side a car fitted with Michelin tires, running safely over a roadway of broken glass, and on the other side is a car fitted with other makes of tires attempting to run over the same course, but with all four tires perforated and the driver in a most disconsolate mood.

The American Automobile Association has issued in book form a set of official maps of the state of New Jersey. The book is 18 inches long by 5 inches wide and, counting maps, contains 154 pages. The book is one of a complete set of eighteen to be issued by the association. These maps are printed by the Survey Map Co., of New York city. The book contains twenty-one maps, there being a separate map of each county in the state. Most of the maps are 18 by 30 inches, are bound into the book and can be examined as successive pages, the maps taking the form of continuous pages and have not to be stretched out to be examined, permitting of their use in a car when traveling at a good pace. The maps are printed in black and show main highways, private and secondary highways, steam railroads, electric roads, elevations, houses, school houses, churches, cemeteries and improved roads. A street map of each town or city is printed on the county map, so that the passing through these places is much facilitated. Other features contained in the book are a complete copy of the automobile law of New Jersey; detailed directions for a dozen tours among which are noted: New York to Philadelphia, Philadelphia to Atlantic City, New York to Long Branch, Atlantic City to Asbury Park and New York to Greenwood Lake, and hotel directory. The maps and other information is interspersed with pages of advertisements.



SIDE AND END SECTIONAL VIEWS OF THE AUTO BRASS COMPANY'S OILER



SETTING VALVES

Burlington, Wis.—Editor MOTOR AGE—Will you kindly send me directions as to proper points to set the intake and exhaust valves on a two-cylinder opposed engine?—Dr. H. H. Newbury.

The illustration will show the proper points for setting the opening and closing of the valves in your motor. Note that these are given in fractions of an inch of piston stroke. The arrows show the direction of motion. Diagram 1 illustrates the exhaust valve operation and in this illustration the piston is on the power stroke. Open the exhaust valve when the piston has completed 9-10 of its power stroke and hold it open until it arrives at the upper dead center. The valve opens at D and closes at A. The inlet valve timing is shown in diagram 2. The cross in 1 is the point of valve opening and in 2 is the point of closing. AC in both cases represents the motor stroke. The inlet valve opens just as the exhaust closes and continues open to a point 8 per cent of the stroke on the compression stroke, to the point on the line D marked with a cross. These valves are not absolute, as the proper points will vary with the design of the motor and its speed, but may be taken as general values.

CASTING CYLINDERS IN PAIRS

Judson, Ind.—Editor MOTOR AGE—What are the advantages and disadvantages of casting cylinders separately and in pairs?—E. W. W.

The double casting will be more easily molded, providing the pattern is properly made, as this construction allows of larger and better supported cores. The separate cylinder motor will be a little longer and unless a sheet metal water jacket is used it will also be heavier than the other design. When cast in pairs they tend to stiffen the engine crank case, a result of decided advantage. In manufacturing, when a defective casting must be thrown away, the double casting represents a greater loss. From the operators' standpoint the replacement of a cracked cylinder is considerably less expensive when the single casting is employed. As the metal expands when the motor is in operation, due to the heat, there are strains produced in the metal. It has been experimentally determined that the double casting is influenced by this the least.

NUBS ON TIRES

West Salem, Wis.—Editor MOTOR AGE—Can you explain what causes nubs to appear on tires? The tires to which I refer are 30 by 3½-inch and are on a machine weighing about 2,100 pounds. On one of the front tires there are three or four nubs about the size of an egg on one side of the tread. The remaining tires are forming smaller nubs, which I suppose in due time will be as large as those on the front tire. Is this a defect in the tire or is it due to improper care on the part of the driver?—W. L. McELDOWNEY.

The little bulbs which appear on the tire surface are the result of the case becoming

weakened and the internal pressure expanding the shoe more in one place than another. If a cut shows on the surface at that point it is not the fault of the tire. If the tire is not of homogeneous material it will expand more in one place than another, which will produce these bulbs. Tires blown up too hard will also cause them. If very large the case is quite liable to blow out at that point if struck by a sharp stone, although in many cases those of small size will not cause trouble. It is always a question whether the tire was at fault or it was caused by carelessness. If you have found these bulbs increasing in size and on all the tires, it would be advisable to take the matter up with the tire manufacturer, as it is probably caused by defective tire material, and if allowed to continue will end in a bursted casing.

SOLID VS. PNEUMATIC TIRES

New Albany, Ind.—Editor MOTOR AGE—After several months' constant use of solid tires on my large touring car, over every kind of road, I desire to say that my preconceived prejudice against them is rapidly disappearing. While there are a few really good, serviceable pneumatic tires on the market there is a large number that are only a constant source of annoyance and one never starts on a trip of any length without the harrassing fear of tire trouble, and, while one does occasionally get hold of a set in which the rubber has been properly cured without burning and they are fresh and new, too often they are seconds and the rubber has lost its elasticity, become stiff, and the buyer loses his money, his temper and his religion.

When we take into consideration the weight of the average touring car of the present day, to say nothing of the ponderous machines frequently seen, we can only wonder that any pneumatic tire can give satisfactory service under such conditions.

That there is a strong prejudice against solid or semi-solid tires is undeniable, and in nine cases out of ten, or even more, it exists where there has been no actual experience with them. It is due largely to two reasons. One is that nearly all machines are equipped with pneumatic tires when sold and the inexperienced buyer is stuffed with the idea that these particular tires are positively the best. The other is that the current auto-

mobile journals are filled with the advertisements of pneumatic tires written in such glowing and convincing style that the mind of the reading public is very naturally biased in their favor.

Again, the pneumatic tire on bicycles during the past few years has given such perfect satisfaction and has been so universally adopted that the riding public was prepared to accept it without question on the automobile without taking into consideration the difference in the weight of the two machines. My experience with solid and semi-solid tires, which has been with two or three different makes, convinces me beyond doubt that, with properly adjusted springs, in resiliency and easy riding qualities they will answer every requirement and in durability one set will outlast four sets of the standard makes of pneumatics.—R. M. FORD.

OFFSET PISTONS

Buffalo, N. Y.—Editor MOTOR AGE—I have read with some interest about the offset pistons such as are being used on Mors machines now, but can not see, from a mechanical standpoint, where any advantage is to be gained, and if you can enlighten me on the point I would appreciate it.—B. O. R.

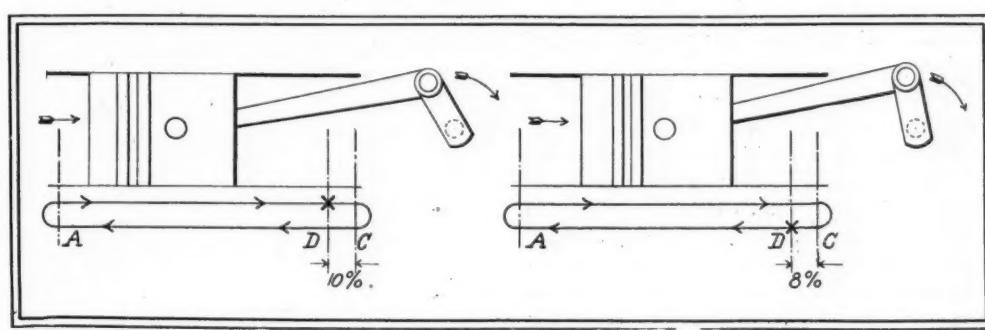
The advantages of this construction may be summed up as follows: Having the cylinder offset the crank pin moves more on one side of the cylinder center than it does on the other. This gives the crank a greater angle on the long side and much shorter angle upon the other. The explosion takes place on the side with the shorter angle, producing less side thrust on the piston, which reduces the wear. Doing this produces a lesser angle, which also could be obtained by the use of a longer connecting rod and which would increase the height of the motor considerably. There is no increase in power due to this. Its use is purely one of refinement in mechanical detail and of decided advantage in producing a smooth-running, compact and serviceable motor.

PRESSURE FOR TIRES

Elmira, N. Y.—Editor MOTOR AGE—What should be the air pressure in correctly inflated tires on an automobile?—C. T. E.

The inquirer does not state the size of tires used. The following gives the pounds pressure for tires of various sizes in front and on the rear, assuming a car of standard weight for the tire used. Different tire makers have prepared schedules of pressure for inflation in their different sizes. The schedules published by different concerns, vary several pounds owing no doubt to the differences in construction.

Size	Front	Rear
5 inches	75 pounds	85 pounds
4½ inches	65 pounds	75 pounds
4 inches	55 pounds	65 pounds
3½ inches	45 pounds	55 pounds
3 inches	40 pounds	50 pounds



No. 1

DIAGRAM FOR SETTING VALVES ON OPPOSED MOTORS

No. 2

Among Makers and Dealers



CITY FATHERS OF NASHVILLE, TENN., GIVEN RIDE IN FRANKLINS

Gets a Road Job—Chester C. Boynton has resigned from the New York Motor Car Co. to accept a position which will require his traveling much of the time in the west.

Moon People Building—Workmen are busily engaged on the construction of a building that will be used by the Joseph W. Moon Buggy Co., of St. Louis, for the manufacture of Hercules automobiles. It will be four stories high, 108 by 149 feet.

Pontiac Firm Enlarging—The Rapid Motor Vehicle Co., of Pontiac, Mich., has let contracts for its new factory buildings, which will be 61 by 300 feet and 61 by 196 feet and be built of cement block at a cost of \$16,989. They will be devoted exclusively to the manufacture of commercial automobiles.

More Room at Top Plant—The C. Z. Kroh Mfg. Co., of Toledo, O., manufacturer of automobile tops, will soon have a new plant, the National Land & Investment Co. having contracted with the top concern to erect a brick building, three stories high and containing 12,000 square feet of floor space.

Moline Need Room—With every prospect of a largely increased business in 1906, the Moline Automobile Co. is reported to be about to add a new building to its plant at Moline, Ill. The building will be used for the blacksmith and testing departments. The addition will be 40 by 150 feet and will stand parallel with the present building and to the east of it.

Omahogs in the Game—P. J. Karbach & Sons, Omaha carriage makers, have filed articles of incorporation for the Karbach Automobile and Vehicle Co., with a capital of \$75,000. Arthur P. Karbach, Richard L. Karbach, H. Wheelock and A. T. Cajacob are stockholders. The company will handle and manufacture automobiles and carriages. It will double the capacity of its present plant.

Riding Academy a Garage—The Cook & Stoddard Co., of Washington, D. C., which has a number of important agencies, including the Winton, White, Cadillac, Locomobile and Baker electric, has just leased the old riding academy at the corner of Twenty-second and P streets, and will transform it into an up-to-date garage, which will be ready for occupancy by September 1. The company

will retain its present garage and salesrooms at 1024-28 Connecticut avenue.

Takes Jackson Agency—The Monroe Automobile Co., of Rochester, has taken the agency for Buffalo for the Jackson car since the Buffalo Jackson agency was abandoned.

Prize for Muskegon—The chamber of commerce of Muskegon, Mich., boasts of having landed the Continental Motor Works, of Chicago, which will manufacture gasoline engines and motor cycles. A new factory will be erected and about 150 men employed.

Growing at Kalamazoo—A new factory is a necessity, the Burtt Mfg. Co. believes, and therefore it is reported that the company has acquired a tract of land at the corner of Clinton and Fulford streets, Kalamazoo, Mich., 66 by 177 feet, and has let the necessary contract. The new plant will be made sufficiently large to accommodate the growth of the company's business in the manufacture of automobiles, tire setters and gas fixings.

Pope People In Capital—The Washington branch house of the Pope Mfg. Co., 817 and 819 Fourteenth street, N. W., is one of the largest and most important automobile establishments in the capital city. The building is four stories high, of brick and steel construction with stone trimmings, and was erected several years ago by Colonel A. A. Pope. Royce Hough, who succeeded W. J. Foss in the management of the Washington



GARAGE OF WESTERN AUTOMOBILE CO., ST. PAUL

branch, occupies an important position in the automobile world of the nation's capital.

New Tire Concern—A company known as the Electric Mfg. Co., has established a plant at Rutherford, N. J., to make tires. Tom Moore, formerly with the De Dietrich American branch, is the sales manager.

Big 'Frisco Fire—Fire Sunday destroyed the plant of the Hercules Gas Engine Works on Bay street, San Francisco. The loss is between \$150,000 and \$200,000, nearly covered by insurance. The concern is one of the world's leading manufacturers of marine engines.

Three in One—The business of the Kirk Mfg. Co., manufacturer of the Yale, the Snell Bicycle Fittings Co., manufacturer of the Snell bicycle, and the Consolidated Mfg. Co., manufacturer of the Yale-California motorcycle, will hereafter be conducted under one name, that of the Consolidated Mfg. Co.

Jose Out; Wood In—John C. Wood has resigned as manager of the National Automobile Co., Washington, D. C., and has been succeeded by William Jose. Mr. Wood is now organizing a new concern and hopes to launch it within the next few weeks. It is his intention to make a specialty of second-hand cars.

Joplin Well Fixed—Joplin, Mo., boasts of two garages. Kleinschmidt & Graves, owners of the Joplin Automobile Co., have just finished their own building, which covers 5,000 square feet and includes a repair shop and charging station. The Southwest Automobile Co., owned by M. Brotherson, is agent for the Gale and Marion.

Pittsburg Reports Two—Pittsburg aims to become a war center, two new automobile manufacturing concerns being reported from there this week. Application for the first charter will be made Friday. The capitalization is fixed at \$200,000, among those interested being R. B. Ward, president of the common council; W. R. Kuhn and John R. Rush. The factory will be located on Walnut street and the company will devote its energies at first to the manufacture of the heavier vehicles, such as electric delivery wagons. The Pittsburg Automobile Co., the other newcomer, will apply for a charter on the 25th, with the idea of manufacturing motor vehicles of all kinds, paying the most attention to touring cars and runabouts. James F. Burke, C. L. Roberts, E. T. Brockman, S. R. Ireland and H. C. Ward are the applicants for the charter.

Each Helps the Other—The Rochester Automobile Club and the United States Automobile Co. occupy the same building at 29 Plymouth avenue, Rochester, N. Y., the club being located on the second floor. Besides the club rooms, the building contains a garage 100 feet square, a showroom 50 by 75 feet, a machine shop 40 by 100 feet, and large offices. There is a 10-foot asphalted basement under the whole building for the storage of cars. The company handles the Pierce Great Arrow, Thomas Flyer, Stevens-Duryea, Waltham-Orient, Buick, Oldsmobile and National Electric. The company operates an electric station on Park avenue in the best residential section. This building is 80 by 100 feet and will soon be enlarged, the company owning a lot 160 by 400 feet. The United States Automobile Co. is capitalized at \$200,000 and the officers are: H. S. Woodworth, president; J. Foster Warner, vice-president;

C. F. Garfield, treasurer; J. A. Barbite, attorney.

New White Out—The first of the 1906 White cars with side entrance tonneau was received at the New York branch last week.

St. Paul's New Garage—The Western Automobile Co. has opened its new garage on Cedar street, St. Paul, in a building erected by the company. Every modern improvement is included. The Peerless is the car handled by the company.

Kulick an Adviser—Frank Kulick, famed as the driver of the Ford car which holds the light weight track records up to 5 miles, is now installed as a mechanical advisory assistant to Gaston Plaintiff, manager of the company's New York branch.

Changed His Mind—Allen, Halle & Co., of New York, who have secured the American agency of the Mercedes for the coming year, declare that M. Charley has changed his mind about establishing a direct branch in this country, as recently reported by cable.

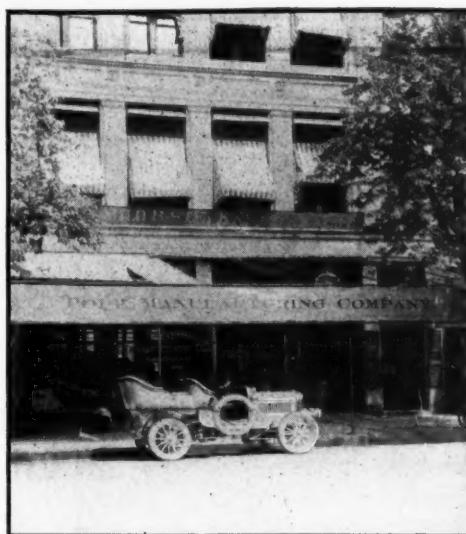
New Hoosier Firm—From Goshen, Ind., it is reported that a stock company is being formed for the purpose of manufacturing the Ihrig Brothers automobiles. The plans, it is said, contemplate an addition to the present quarters of the Goshen Motor Works, located near the Big Four and Lake Shore depots,

Quakers Spread Out—The Atwater-Kent Mfg. Works, of Philadelphia, manufacturer of ignition specialties, formerly located at 112 North Sixth street, is now in its new home, a modern fireproof building at 42, 44 and 46 North Sixth street, where it has a considerable increase in floor space and the facilities for increasing to a great extent the output of the many ignition specialties which it manufactures.

Gallia Is Represented—The Gallia, a French electric made by the Société l'Électrique, is now represented in this country by Bernard Maurice Dufresne and Count Armand de Gontaut Biron, who have just established headquarters at 152-154 West Thirty-Eighth street, New York. Lighter weight, more ease of control, and greater speed as compared with the American product are claimed by the Gallia importers.

Auctions Old Cars—The Nichols Bazaar Co., an old and successful Philadelphia firm of horse dealers, embarked on a new venture on Tuesday last, when it announced and carried out a sale of second-hand automobiles which attracted a huge crowd and brought fair prices. The Nichols firm is located in Industrial Hall, a big building on Broad street above Vine—an ideal location for automobile auction sales, being within hailing distance of all the large "Row" concerns. These sales will be regular monthly affairs.

Will Give Prizes—E. D. Winans, manager of the American branch, says that the Michelin Tire Co. will give a prize of at least \$10,000 to the winner of the Vanderbilt race, providing that his car is fitted with Michelin tires. One of the conditions, however, is that the car has been using Michelin tires in all races for a year previous. Last year the prize was for \$1,000. Mr. Winans also says that four men will be sent this week to Europe to receive instructions at the Michelin factory in preparation for the race, wherein similar outfitts and methods to those used in the Bennett race will be employed. He further says that the Fiats will be fitted



POPE COMPANY'S WASHINGTON HOME

with Michelin tires made in an Italian factory, and that a similar factory is planned for this country.

With Rubay—Chester C. Boynton, recently connected with the selling department of the New York Motor Car Co., has joined Leon Rubay's forces and will travel in the west with La Corte coils and magnetos.

Give City Fathers Ride—City fathers of Nashville, Tenn., now have a higher opinion of automobiles since their outing recently in Franklin cars. The dealers of the southern city seized the opportunity afforded them and took the mayor and aldermen out in five cars provided for the purpose.

Handles a Buffer—Joseph S. Heller, of 1779 Broadway, New York, importer of the Pipe, has arranged to introduce in this country the buffer now coming into vogue abroad. He has secured the American agency for the Simms safety buffer, a British product recently described in Motor Age.

Make Fiats Here—E. R. Hollander, of Hollander & Tangeman, New York, importers of the Fiat, has received a cable from Turin announcing that Chevalier Agnelli, of the Italian company, will sail for New York September 11 to arrange for the erection here of a huge factory where Fiat cars are to be constructed. Hollander & Tangeman have options on several desirable sites in the neighborhood of New York city. Designers and constructors will come over from the Turin

factory to superintend the manufacture of American Fiats.

Georgia Plant Building—It is expected by the J. V. Hicks Gas Motor Co. that the plant it is erecting at Waycross, Ga., will be running inside 60 days from the present date. The company makes the Hicks patent tandem gas engines and automobiles.

Possible, Not Impossible—Between the printer and proofreader Morgan & Wright's advertisement in MOTOR AGE of last week was made to say that "by a series of exhaustive tests we have proven that it is impossible to so thoroughly amalgamate these parts—fabric and cover—as to make separation practically impossible." As the line should have read "proven that it is possible," the mischief the little "im" played can be readily understood.

Taxis Goes With Ford—W. W. Taxis, who formerly managed the automobile department of the big Philadelphia store of John Wanamaker, has taken charge of the Philadelphia branch of the Ford Motor Co., which, after a prolonged still hunt, has been located on Broad street, at the northeast corner of Buttonwood—not exactly in 'Automobile Row,' but near enough to smell the gasoline fumes. Spencer O. M. Orington is associated with Mr. Taxis in the management of the new place opened by the Ford people.

Studebaker Outlook—Charles Arthur Carlisle, of the Studebaker Automobile Co., of South Bend, Ind., declares the demand for Studebaker automobiles, both electric and gasoline, has been away beyond the capacity of the company to take care of the present season. The new five-story building which is to be devoted exclusively to the manufacture of motor cars, is rapidly nearing completion, but owing to minor delays it will be September 1 before it is ready for occupancy instead of August 1 as contemplated. Designs for new 1906 models were completed about 10 days ago and the cars for next season will be greatly improved, it is said. Experimental tests are now being made and Mr. Carlisle has just returned from a trip to Chicago for the purpose of testing out the gear and engine in the new four-cylinder touring car. He reports the trials as in every way highly satisfactory. Although the roads were not in the best of condition, the car ran smoothly and came up to expectations.



GARAGE OF UNITED STATES AUTOMOBILE CO., AND ROCHESTER AUTOMOBILE CLUB HEADQUARTERS



ROADSIDE TROUBLES

An Ounce of Prevention
Copyrighted by the American Motor League

By Chas. E. Duryea



LEANING—While care of a vehicle is not a part of roadside troubles, it is true that it often saves trouble and adds pleasure on the road. Every morning the vehicle should be looked over, the mechanism cleaned up, if needed, and the proper oiling attended to, supposing, of course, the vehicle is to be driven the major part of the day. If, however, only short runs are made, once a week is sufficient for this attention. To preserve the appearance, washing and cleaning is an important matter and the vehicle should be washed immediately after using, so as to remove the specks of mud that are likely to spot the varnish if left to dry. This care is particularly necessary while the varnish is fresh. After the first month or two it is not so particular. When washing avoid sunshine, which, as a matter of fact, is not beneficial to the vehicle at any time. Use water freely but do not drive it into the body, in the seats or in any of the boxes about the vehicle. A careless man with a hose will make hours of wiping up necessary and even then the moisture cannot be removed from the many places where it may damage either the body or the mechanism. Glue, nails and screws will not hold lumber together if water gets into the joints. Leather is rapidly deteriorated thereby, the upholstering shrinks or rots and the mechanism rusts or is damaged by the grit washed in by the water. Mud spots should be softened by plenty of water applied either with a hose or a sponge, but wiping them causes the particles of grit to scratch the paint. Grease spots on the paint should be removed with a rag wet with gasoline or with water and good neutral soap. The wheels and under gearing should be washed with a sponge thoroughly wet to remove what cannot be reached with a hose. Avoid brushes if you wish to avoid scratching, and watch that waste does not get into gears or chain. A clean chamois skin will remove the excess water and leave the carriage dry. Before putting away the vehicle, see that storm aprons, side curtains and similar fittings are both clean and dry, for if put away damp, they rot rapidly and will mould in a day or two.

SHELTER THE VEHICLE—Part of the care of a vehicle is the place where it is kept. A coach-house should be dry, well ventilated and the vehicle protected from direct sunlight. The building should be well lighted, A dark building tends to turn the vehicle yellow. A light cotton cover keeps off most of the dust. Even if the vehicle is not used, washing once in two weeks will tend to prevent the paint from cracking, on which account light use preserves the finish better than no use at all. Tops should

be kept up to prevent the leather from creasing. While gasoline will remove grease spots from leather, it also removes the oil and because of this fact a neutral soap is best for tops or seats. If the leather is hard a little neatsfoot oil gently rubbed over it and then wiped dry is advantageous. Patent leather needs nothing but washing, in fact, cold water is best for all places excepting where spots of grease must of necessity be removed. Not everyone knows how to clean a vehicle and roadside troubles have been caused by carelessness in cleaning.

THE OPERATOR—While vehicles differ, and some are better than others, it is well known by the manufacturers that owners and operators also differ. It is therefore but justice to the vehicle and its maker that a few words should be said about the operator. It has often been observed that while the majority of vehicles of a certain kind will give good satisfaction, a few are continual sources of trouble. With modern methods of manufacture, parts are made in quantity and are therefore practically duplicates, so that it is a physical impossibility for all the bad parts in the factory to get into one vehicle. The source of trouble therefore may, with great certainty, be looked for elsewhere, and while most manufacturers do not like to offend a customer by telling him in plain English that the vehicle is not properly cared for or operated, this is, unfortunately, the fact in most cases where continued trouble is found. There is always the possibility of trouble, of course, with some part or other, but any defective part which continues to give trouble can usually be located and remedied, if the operator will but notice what is the cause of trouble and report it intelligently to the maker. The operator may intend to be careful and may, in fact, be over cautious, doing things in his zeal and inexperience that should not be done, but the fault is his, nevertheless.

PATIENCE—He should not blame either the vehicle or himself for this lack of experience, but should possess his soul with patience until he shall have been able to secure the necessary training and experience to handle and care for his machine as its needs demand. When one remembers that a locomotive engineer must have a long training before he is intrusted with a machine that does not need steering, no one will deny that the motor carriage operator should not expect the best of results until he likewise shall have served an apprenticeship. The wonderful part is that in a few short years so many people have been educated to handle these vehicles not only with pleasure and profit to themselves but with safety and convenience to the public at large, and this

EDITOR'S NOTE—This is the fourth of a series of articles by Charles E. Duryea. These articles will be prepared for publication in book form and will be distributed by the American Motor League to its members during the coming year.

fact speaks volumes for the simplicity and high quality of automobiles generally and for the intelligence and conscientiousness of the makers thereof. The way to avoid roadside troubles is therefore to master them and overcome them. Patience will untie many hard knots.

KNOW YOUR VEHICLE—After selecting your vehicle the first duty is to get acquainted with it unless you have an experienced operator. Do not start out for a long trip, believing that the vehicle will run forever without attention, but confine yourself to short trips, frequent inspections and a determination to fix in your mind what every part is for, how it is put together and what it looks like when it is in working order. To do this it is necessary to trace every part through its connection with other parts; for example, follow the gasoline through the strainer into the tank, thence through the second strainer into the mixer; note how it is regulated there by the float and the needle valve, how it passes to the air tube, how it is throttled, how the inlet valves permit it to reach the firing chamber, how it is compressed, fired, exhausted and muffled; follow the wiring from the battery to the switch, to the coil and to the insulated plugs.

CAUSE AND EFFECT—Ascertain what causes the spark to occur at the proper interval and what is the proper interval. Note the arrangement for opening the exhaust and not only note how it works and why it works but when it works. Examine the transmission gearing and ascertain which gears and clutches cause any given speed as well as why and when. Note how the clutches are adjusted and don't be guilty of blaming the vehicle because adjustment of the wrong clutch does not produce the desired result. The writer has known instances where, after 3 months' almost daily experience around a vehicle, the driver has been guilty of this lunacy and has blamed the vehicle rather than himself. Such carelessness, for it cannot be called ignorance, is largely responsible for the failures of the vehicle to give satisfaction and is one of the greatest causes of roadside troubles. Learn how to remove and clean the chain and study the functions and the construction of the balance gear. Learn the adjustment and proper condition of the brake; learn how to remove the wheels for shipment by freight, or, when necessary, for oiling; learn how to remove, repair and replace the tires. It is useless to assume that this knowledge will never be necessary.

THE PLEASURE OF KNOWING—It may be and it should be a pleasure to a true automobilist to have this knowledge even if never used. The mere possession of this information gives greater zest to driving and the conscious power of being absolute master of the vehicle frequently turns work into play. Understand how the water circulates in performing its duties as a cooling agent.

AMERICAN MOTOR LEAGUE

OFFICERS

ISAAC B. POTTER, President,
Potter Building, New York.
CHARLES E. DURYEA, First Vice-Pres.,
Reading, Pa.
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Adrian, Mich.
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154 Nassau St., New York.
FRANK A. EGAN, Secretary,
132 Nassau St., New York.
FREDERICK B. HILL, Treasurer,
32 Binford St., Boston.

National Headquarters
Vanderbilt Building New York

TO MICHIGAN MEMBERS

The annual convention of American Road Makers will be held at Port Huron, Mich., on August 29, 30 and 31. The most elaborate preparations are being made to make this occasion both interesting and instructive, and every member of the American Motor League who can possibly be at Port Huron on either or all of the days mentioned is cordially urged to be present at this convention. The invitation committee includes several state governors and the state highway commissioners of Michigan, Connecticut, Pennsylvania, Vermont, Maryland, Illinois, Ohio, New Hampshire and Massachusetts. Upon the same list are found the names of Director L. W. Page of the road inquiry bureau of the national government, the state engineers of New York and New Hampshire, Editor E. L. Powers of Good Roads Magazine and others of conspicuous record in the work for better roads. Among the prominent people invited and many of whom have already accepted invitations to speak, are Colonel Albert A. Pope, always a pioneer and leader in this movement; General Nelson A. Miles; Governors Folk of Missouri, Deneen of Illinois, Herrick of Ohio, Robert of Connecticut and Warner of Michigan. The state of Michigan, through its legislature, has passed resolutions inviting the American Road Makers to hold this good roads convention at Port Huron, and the people of Port Huron are preparing to receive all visitors with sumptuous hospitality which will continue the three days.

ROUTE INFORMATION

From A. M. Haynes of Bay City, Mich., the league has received a most complete and excellent description of the route from Bay City to Niagara and thence to Toronto. This route runs via Detroit and thence into Canada, passing through Windsor, Maidstone Cross, Essex Centre, Olinda, Leamington, Wheatley, Cedar Springs, Blenheim, Morpeth, Clearville, Wallaceville, Iona, Talbotville, St. Thomas, Aylmer, Ingersol, Woodstock, Brantford, Stoney Creek, St. Catherines, Niagara-on-the-Lake, Queenstown and Suspension Bridge. The total distance from Detroit is 302 miles. From Niagara Falls to Toronto the route is via St. Catherines and Hamilton, Toronto being 42 miles from the last named city.

From S. A. Conroy of Boston the league has received an admirable description of routes from Boston to Portland via Salem, Beverly, Windham, Hamilton, Ipswich, Newburyport, Salisbury, Seabrook, Hampton Falls, Hampton, Northampton, Portsmouth, Kittery Junc-



OFFICIAL BULLETIN

tion, York Corner, Cape Nedick, Ogunquit, Wells, Elms, Kennebunk, Biddeford, West Scarboro, Cash Corner and Portland. From Anson Turner the league has received description of route from New York to Lake Hopatcong via Jersey City, Newark, Bloomfield, Montclair, Verona, Caldwell, Parsippany, Denneville, Rockaway, Dover, Kenville, Lake Hopatcong; total distance, 41 miles.

From S. S. Middleton of New York the league has received a map and description covering the route from New York to Lake George via Yonkers, Tarrytown, Peekskill, Fishkill, Poughkeepsie, Red Hook, Hudson, Kinderhook, Greenbush, Troy, Mechanicville, Glens Falls and Lake George; the total distance, 211 miles.

DANGER SIGNS

Not only members of the A. M. L., but motor car users everywhere are invited to unite with the league in putting up danger signs. Every motor car user who has toured a hundred miles from home knows that these danger signs are needed in thousands of places where no signal has ever been put up to warn the automobile user of impending danger.

The league will send stencils to any member or other responsible person who will undertake to put up one or more of these signs. A letter to the secretary—whose address is given below—will bring full information and the entire job can be completed within a week.

The secretary has on hand several thousand circulars containing carefully prepared directions from which any reader may learn the proper and accurate method of describing a route. These circulars will be sent to all who ask for them and especially to all who will send route information to league headquarters.

The proper description of a route is of prime importance, and the league leaves no stone unturned in seeing that all descriptions are accurate, that distances and directions are properly given, and that road conditions, for different seasons, are described in detail.

Every motor car user in the United States should be a member of the American Motor League. The dues are nominal, \$2 a year; there is no initiation fee; the work of the league benefits everybody and the organization is entitled to bountiful support. Printed information will be sent on request. Address American Motor League, Vanderbilt building, New York.

THIS LEAGUE

Is Now Collecting Route Information

covering all automobile routes in the important states and will publish road books for motor car users as fast as complete information is received. The A. M. L. is the only organization engaged in this work, and it invites the co-operation of all persons interested. For full information and membership blanks address American Motor League, Vanderbilt Building, New York City.

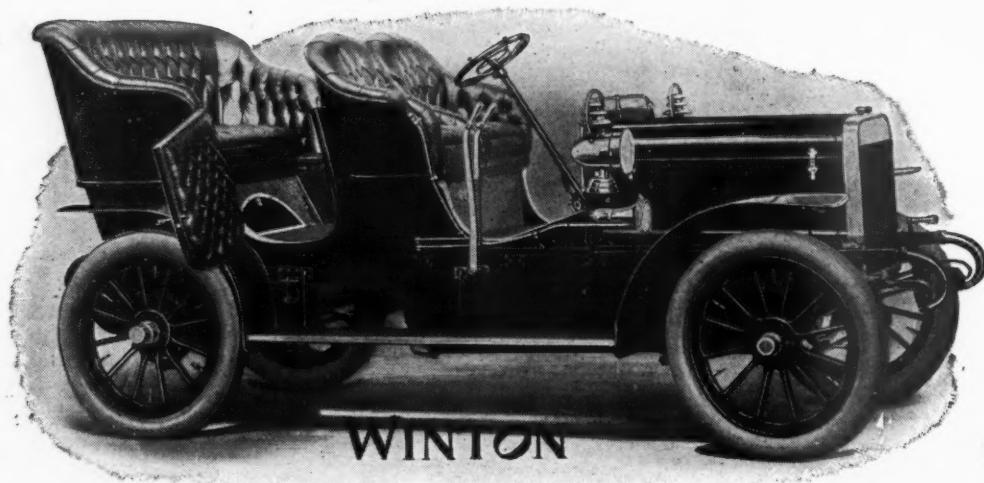
ACROSS THE CONTINENT

Some day this week Percy F. Megargel, of the A. M. L. touring committee, will undertake a trip from the Atlantic to the Pacific coast and return, being the longest continuous trip ever undertaken with a motor car. This trip is undertaken under the auspices of the A. M. L., and in behalf of the league Mr. Megargel will undertake to determine the best route from ocean to ocean and to describe it for the benefit of others who may undertake similar journeys in the future. As now planned Megargel will drive a regular stock 16-horsepower Reo car, fitted with tonneau, searchlights, speedometer, odometer, clock, compass, barometer and a special hand windlass of sufficient power to haul the car by hand out of any hole, ditch or river in which it may become stalled. Megargel will be accompanied by a mechanician and will be prepared to camp out and provide his own meals while crossing the mountains and desert. His route as now laid out will take him through from New York to Chicago by the customary route—Albany, Syracuse, Rochester, Buffalo and Cleveland. From Chicago Megargel will strike across Illinois through Mendota and Rock Island; thence through Iowa, via Des Moines; thence through Nebraska, Wyoming, Idaho and Oregon, following the Union Pacific and Oregon Short Line; finally taking up the wagon trail through Burns and Prineville, Oregon; thence to Salem and up the Willamette Valley to Portland. After remaining a few days at the Lewis and Clark exposition Megargel will proceed southward via Willamette valley to San Francisco and returning thence to New York, following approximately the line of the Southern Pacific Railway. It will be Megargel's effort to cover the distance between New York and Portland in 50 days or less, it being important that he should get across the mountains before the coming of fall snows, which would absolutely bar his passage. The league asks in behalf of Mr. Megargel that motor car users with whom he comes in contact extend to him their fraternal aid and supply him with all information to lighten the burdens of his very long journey.

PITTSBURG CONSULATE

At a meeting of the Pittsburg consulate of the A. M. L., held on the evening of Wednesday, August 9, an amendment to the constitution was adopted, reducing the annual dues of each member to the sum of \$1, thus making the total payment annually by each member of the consulate \$3 instead of \$6, as formerly.

WINTON



HILL CLIMBING FEATS

Don't judge a car by a maker's hill climbing "tests."

Because automobiles can be "doctored up" to climb hills like a cable car.

And still be slow on the level or valueless in general service.

Like a "doped" race horse that wins one contest and is sick for two weeks.

The only automobile "test" worth thinking about is the daily work on hill and level of cars used by men who have bought and paid for them.

Such men, having a financial interest at stake, demand high-class, all-around service. Consequently statements like the following have a guiding value to you:

Mr. Geo. G. Allen, a leading attorney of Akron, O., says:

"I am entirely satisfied with my Winton Model A. This is a very hilly country, but I have never yet had to take out the high speed clutch on any hill, and have always had more than half of my power in reserve. The air control is wonderful in furnishing flexibility in speed. The work on this car was so well done that I have not had a single adjustment to make. The car is certainly a great credit to your house. No other large car that I have ridden in begins to compare with it."

Town Talk, of San Francisco, says:

"J. B. R. Cooper, the Monterey banker, has just placed his order for a duplicate of S. C. Hammond's fifty horsepower model A Winton. 'Am I pleased with my model A Winton?' remarked Mr. Hammond, after having made the three Golden Gate avenue hills on the high speed with eight up. 'I would like to see some other machine in this city duplicate the feat that I have just performed with my car. You may say that my Winton far exceeds my expectations.'"

Let us send you a copy of the September Auto Era, detailing the remarkable hill climbing performances accomplished by Mr. G. W. Coffin, of Denver, and Mr. Ed Heath, of Chicago.

Five Winton Models—16-20 to 40-50 h. p.—\$1,800 to \$4,500.

Catalog No. 2 describes all models fully.

**THE WINTON MOTOR CARRIAGE CO.
CLEVELAND,** Member A. L. A. M. **OHIO, U. S. A.**

Branch Houses in Chicago, New York, Philadelphia, Boston and London

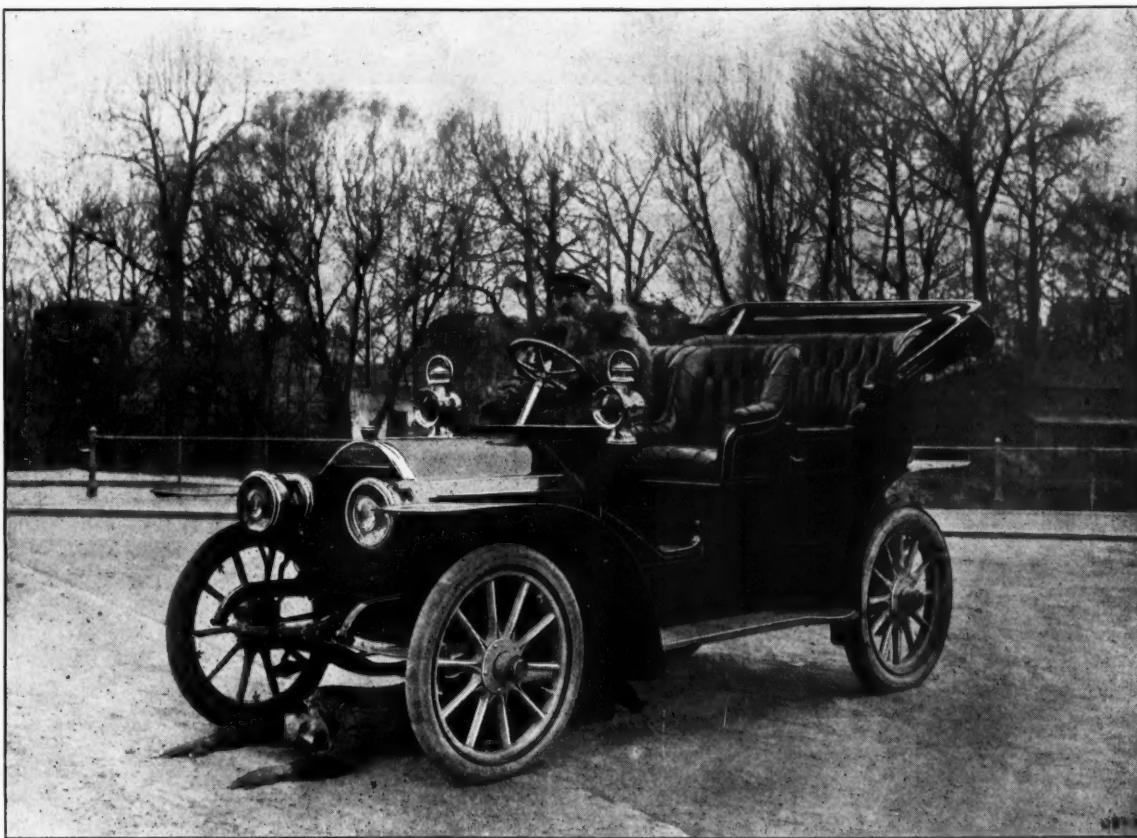
Sales Agencies Everywhere

AUTOMOBILES DE DIETRICH & Cie

THE DE DIETRICH CAR QUALIFIED IN THE
FRENCH ELIMINATION TRIALS

SELECTED AMONG TEN OF THE BEST FRENCH MACHINES

SEE THE CLEARANCE



THE ONLY FOREIGN CAR MADE
FOR AMERICAN ROADS

THE SPEEDIEST, STRONGEST, MOST RELIABLE CAR
IN THE MARKET

DE DIETRICH AMERICAN BRANCH: 215-217 W. 48TH ST., NEW YORK

GLIDDEN TROPHY Won On GOODYEAR Tires

THE PIERCE GREAT ARROW CAR

Driven by Percy Pierce,
and equipped with

Goodrich Clincher Tires

(Bailey Tread) receives
the Glidden Trophy.

A clean score and the tires not touched once for repairs or even inflation in the entire run of 1,000 miles.

A great road test for tires—a practical demonstration of the superior serviceability of Goodrich Tires on all sorts and conditions of roads.

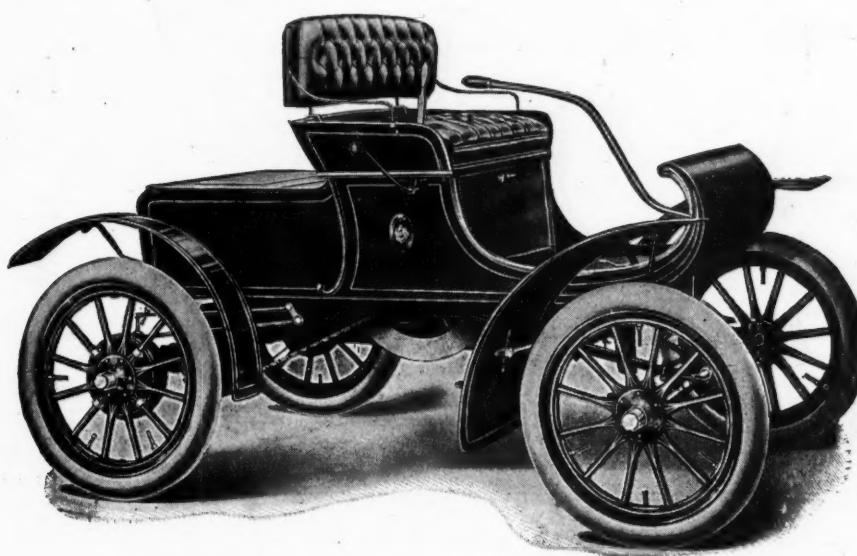
THE B. F. GOODRICH CO.
AKRON, O.

New York, 66-68 Reade St., and 1625
Broadway.
Philadelphia, 909 Arch St.
Buffalo, 731 Main St.
Cleveland, 420 Superior St.
Boston, 161 Columbus Ave.

Detroit, 80 E. Congress St.
Chicago, 141 Lake St.
San Francisco, 392 Mission St.
Denver, 1444 Curtis St.
London, E. C., 7 Snow Hill.



OLDSMOBILE



Standard Runabout, Price \$650

The business man's favorite—

Because it is handy, convenient and economical—a profitable business partner

The doctor's favorite—

Because it can be relied on in emergencies; is always ready; saves time, and eliminates distance.

The minister's favorite—

Because it brings him in closer touch with his people and lengthens the radius of his influence.

The woman's favorite—

Because it is as safe and easy to manage as the family horse.

The youth's favorite—

Because it represents life and action—develops independence and self-reliance.

The universal favorite—

Because it represents the highest development in automobile construction.
The highest quality at the lowest price.

Arrange with our nearest sales agent for a demonstration of this or any other of our full line of cars. Send for Catalog 52.



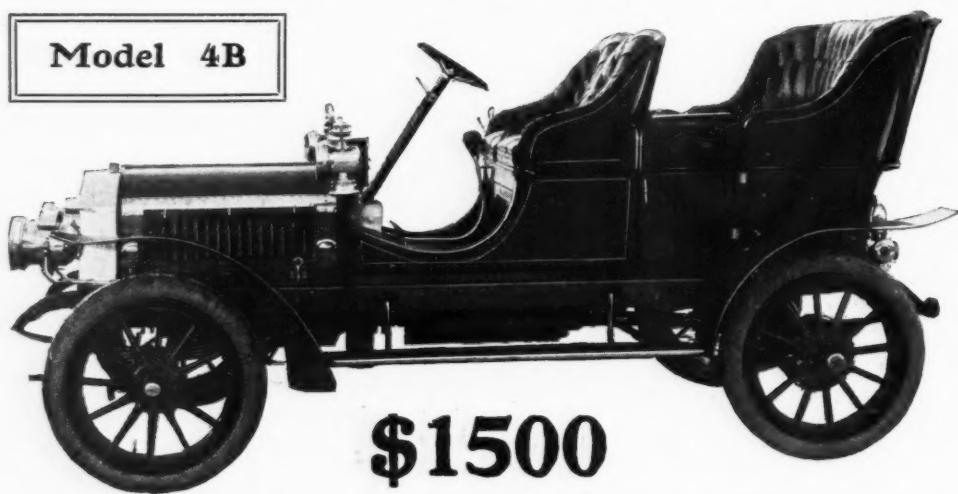
Olds Motor Works, Detroit, Mich., U.S.A.

MEMBER A. L. A. M.



WHEN YOU PAY MORE

Model 4B



\$1500

An ideal touring car at an ideal price. 18-20 h. p. (4-cylinder vertical motor), \$1,500. One h. p., for every 85 pounds of weight. *No radical features or untried devices for which you will have to pay for the experiments.*

It embodies the best features of the most famous cars, but it is different in at least one essential—price. A 4-cylinder touring car at \$1,500 seems unusual, you say? It is more than unusual—it's wonderful.

for a touring car or run-about than our price, you are paying for features which you get without extra charge in the

MITCHELL

It is not only "the car you ought to have at the price you ought to pay"

Model 2B



\$750

2 cylinder, 9 h. p., vertical motor, mounted in front. This Runabout is as carefully designed, as up-to-date and smart in appearance as any three or four thousand dollar car ever built. It has ample power for all conditions of road and its hill climbing abilities are unsurpassed. It is all that any man may want in a Runabout.

It is **more**. It is absolutely the best car—the most perfectly constructed—the most simple to operate and the most stylish car in appearance on the American market. You cannot possibly do better than to buy a **Mitchell**.

WRITE FOR CATALOGUE

MITCHELL
Motor Car Co.
RACINE, WISCONSIN

Member American Motor Car
Manufacturers' Association,
Chicago

Did you ever read in any catalog or ad, or did you ever hear any salesman say, anything about the percentage of the engine power that is lost between the engine and the wheels?

You know there must be some loss in every gear, chain, shaft and bearing that is used to transmit the power from the engine to the wheels. Maybe you don't know however that this loss often runs as high as 50 per cent.

The customary way of rating motor cars is by the amount of *engine* horsepower per hundred pounds car weight. This system sounds very candid, but the story stops just at the point where things get interesting. For the purpose of illustration, we'll grant that the engine develops twenty horsepower and the car weighs 2000 pounds—but are the driving wheels on the ends of the engine crank-shaft? No, they're back at the other end of the car, and those twenty horsepower have to be gotten from that engine to those wheels, where the actual work of propelling the car is done. Probably there are a half a dozen bearings, maybe a couple of chains and four sprockets, too, for this power to travel through before it reaches the wheels—and the question is, HOW MUCH POWER IS CONSUMED BY FRICTION IN THESE VARIOUS PARTS? Suppose some of the bearings are a wee bit small and heat up or don't get enough oil—or suppose the car was assembled in a hurry and they are not in exact alignment—say a few thousandths of an inch or so out, so little that you can't detect the error with your eye?—suppose the pressed steel frame has sagged? Suppose some part is too light and springs under heavy pulling?

If this is a new line of thought to you and you want to know a little bit more, our booklet is at your service. It is not a catalogue; it is a collection of pointers on just such questions as these.

J. STEVENS ARMS & TOOL CO.

Makers of the "Twentieth Century Hustler"

705 Main St.,

CHICOPEE FALLS, MASS.

Member Association Licensed Automobile Manufacturers.

STANDARD RIMS WILL ALWAYS LEAD

Saying so doesn't make it so—but if Intelligence, Skill, Money and Good Materials are essential in order to make good Rims, we will never be in the background.

We made the first successful Clincher Rim and have been making better Rims ever since, because our "know how" methods combined with the use of the best materials, prevent us from making any Rims that are not correct in every detail.

You'll know them by their accuracy.

Every Rim we sell is branded with this Tire Inspector's Stamp



thereby "making good" your tire guarantee, as tires are not guaranteed unless fitted to branded Rims.

Look for the Figure "1"—it's important too, designating the Rim to be a "Standard"—our make.

**THE STANDARD WELDING CO.
CLEVELAND, O.**

McClernan & Orr, Western Representatives, Chicago.

CADILLAC

ROUND-UP OF AUTOMOBILES IN TEN EASTERN STATES

AMERICAN GASOLINE AUTOMOBILES

Make	Conn.	Mass.	N. Y.	N. J.	N. H.	Pa.	Vt.	R. I.	D.	C.	Me.	Total
Cadillac	132	131	144	17	21	16	17	60	8	1,121		
Oldsmobile	42	102	304	154	44	21	15	30	34	230		
Pope (three minkes)	73	102	311	108	23	26	14	10	24	10	701	
Rambler	31	154	200	701	59	37	34	2	7	38	603	
Locomobile	102	80	238	67	39	18	22	6	6	5	581	
Autocar	27	88	177	109	6	94	10	15	2	7	535	
Ford	26	60	221	38	17	33	12	4	20	11	432	
Winton	44	71	185	68	19	23	7	7	9	2	424	
Franklin	13	73	200	34	7	21	3	9	24	2	414	
Knight	18	104	71	55	18	5	7	6	4	21	299	
Packard	14	46	120	32	8	61	7	1	5	5	294	
Pierce	6	64	143	11	8	3	1	1	2	2	230	
Thomas	22	32	107	45	5	10	4	1	1	2	227	
Stevens-Duryea	24	68	48	13	12	2	7	9	1	18	202	
Orient	9	41	64	24	10	6	16	4	4	13	197	
Maxwell	18	11	98	22	3	12	2				170	
Columbian	85	8	1								138	
Northerner	8	28									331	
Elkhorn	10	8									15	
Hopk.	4	10									14	
Buick	9	22									31	
Peerless	3	37									40	
Other American gasoline												
National, 60; Cr. 45; Premie. Stude.												

National, 60; Cr.
45; Premie.
Stude.

FOREIGN GASOLINE AUTOMOBILES

Make	Conn.	Minn.	N. Y.	N. J.	N. H.	Pa.	Vt.	R. I.	D.	C.	Me.	Total
Panhard		4	88	12	..	7	..	..	..	..	..	110
Mercedes		2	5	86	11	..	8	..	..	..	..	110
Renault		1	..	43	3	..	4	..	..	..	..	47
Darracq		..	4	92	8	1	5	..	..	..	..	106
Fiat		..	5	92	2	1	2	..	..	..	..	100
Decauville		1	5	17	6	..	2	..	..	..	..	30
De Dion		8	9	7	..	1	..	..	..	..	..	16
C. G. V.		1	23	3	..	..	..	..	..	..	..	26
Rochet Schneider		1	1	15	3	..	..	..	..	..	..	19
Chenard Bayard		..	31	11	4	..	..	..	..	..	..	46
De Dietrich		1	3	12	..	..	..	..	..	..	..	16
Holley		..	1	14	..	..	..	..	..	..	..	14
Richard Brasier		2	1	..	..	..	..	..	..	..	..	3
Mors	
Napier	

From the
Trade
Papers of Recent
Date

Read the
Totals



On the Crest of the
Wave of Popularity

And everybody knows it

SOME of the dealers in SOME of the cities selling SOME other lines of cars are advertising at a 20 per cent discount from list. NOT A CADILLAC DEALER IN THE LAND IS DOING THIS. Cadillac prices NEVER break. THE DEMAND IS TOO KEEN FOR ONE THING, AND IT'S A MATTER OF HONORABLE BUSINESS TACTICS WITH US FOR ANOTHER. Write for Catalogue.

CADILLAC AUTOMOBILE COMPANY

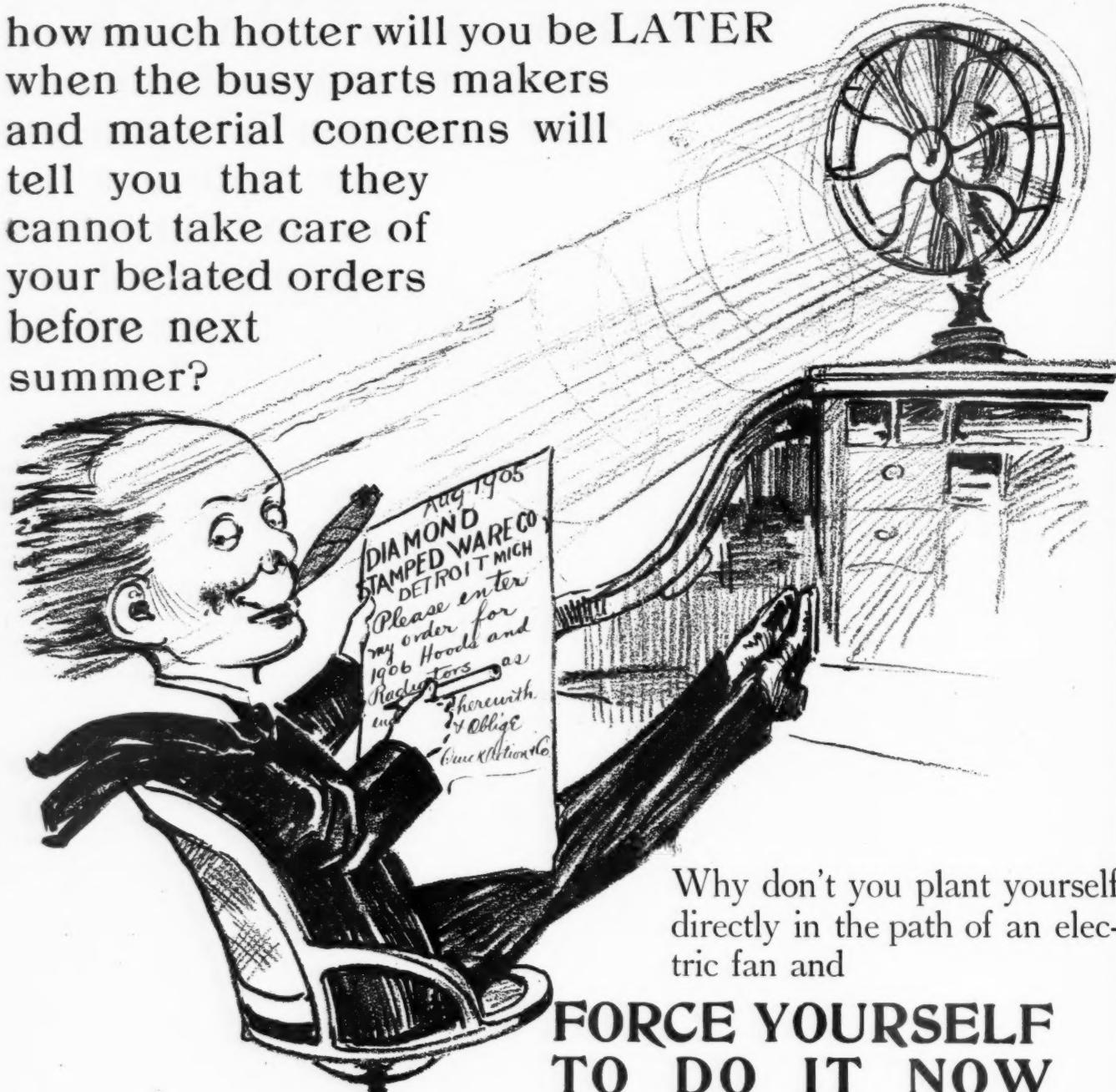
Members of Association of Licensed Automobile Manufacturers

DETROIT, MICH.

If it makes you Hot NOW to think of fixing up
your order for 1906 Hoods and

RADIATORS

how much hotter will you be LATER
when the busy parts makers
and material concerns will
tell you that they
cannot take care of
your belated orders
before next
summer?



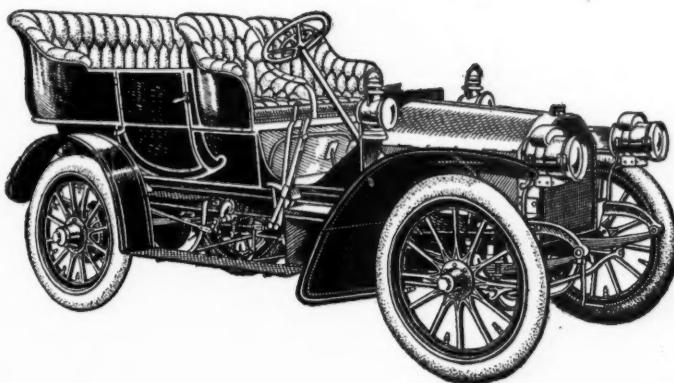
Why don't you plant yourself
directly in the path of an elec-
tric fan and

**FORCE YOURSELF
TO DO IT NOW**

You will sleep better to-night as a result, and the dealers selling your 1906 cars will like prompt deliveries—you KNOW IT. Give US your orders.

**DIAMOND STAMPED WARE CO.
DETROIT, MICHIGAN**

Peerless



THE PEERLESS POLICY

Is not to turn out a lot of cars of small cost and even smaller value, but to make a fewer number and bend every effort to make them as good as an Automobile can possibly be made. Those who know best the difference between the Peerless and the others are constantly congratulating us on our success in keeping the Peerless in the lead.

If you want a large handsome car of high horsepower that delivers the power to the rear wheels with a minimum of loss — if you want a car that will go anywhere at any speed and come back again without giving any trouble

BUY A PEERLESS

Send for Catalogue and let us put you in touch with our nearest Agent and arrange for Demonstration.

PEERLESS MOTOR CAR COMPANY

Lisbon Street, Cleveland, Ohio

Member A. L. A. M.

Motor Age Circulation

From time to time we are requested by some cautious advertiser to render a statement of our circulation. For the benefit of our clients, past, present and prospective, we have prepared the following statement, substantiated by postoffice receipts for that portion of our circulation going forth as second class mail, and are ready to show News Companies' orders for papers supplied to them, and any other information desired upon demand of seriously interested parties.



The above cut represents Post Office Receipts for 8,507 pounds net, equaling over 4½ tons of issue of August 3, 1905.

Each paper, including wrapper, weighed 11¼ ounces.

8,507 pounds divided by 11.25 oz =	12,098 papers.
We also furnished, non-returnable, to Western News Co. and news stands direct.	625 "
Mailed under stamps to foreign addresses.	86 "
Retained for office sales and distribution.	350 "
Total for week of August 3	13,159

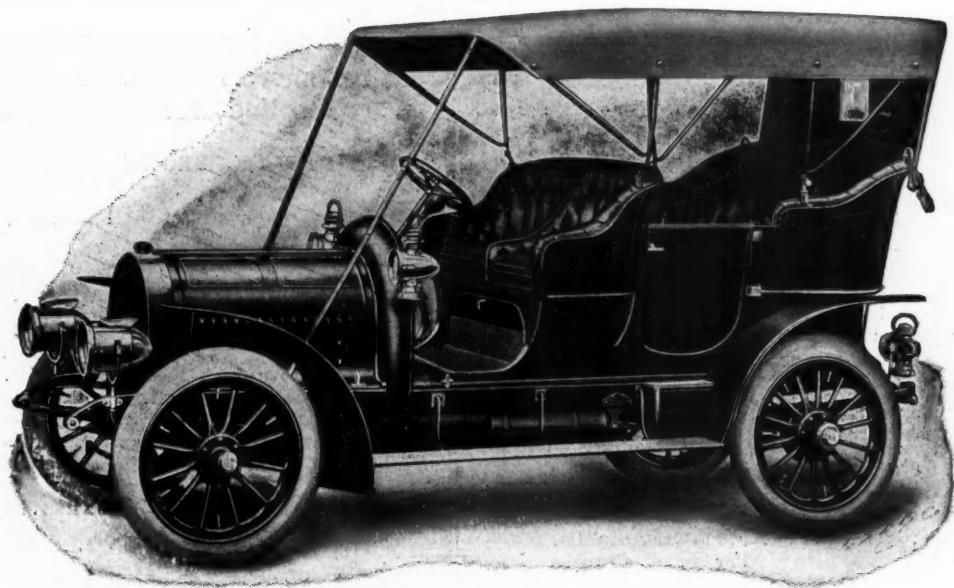
The above is not an exceptional exhibit. We shall produce like statements weekly hereafter—either printing them among our display advertisements or mailing them at the end of the month to each advertiser.

MOTOR AGE,

N. N. Vandicklen

Manager.

First Among the Best



A ROYAL TOURIST---Those who know it best, know it is the BEST

Write for Nearest Agency

THE ROYAL MOTOR CAR CO. Department 2
CLEVELAND, OHIO

Straight Talk to Automobile Agents

Nearly seven years' experimental work was spent on the first WAYNE car before the public were even asked to look at it. In 1903 we built a limited number of cars which were placed in various parts of the country and given daily use under every possible condition with most gratifying results.

In the summer of 1904 we commenced making deliveries to agencies and inaugurated an effective general advertising campaign to help our Agents.

The Wayne Automobile Co. offers its agents the most liberal treatment and the heartiest co-operation, not only by assisting in sales, but by prompt attention in supplying parts and accessories. During 1905 we spent \$50,000 in advertising the merits of the Wayne Cars. For next season we are planning a most aggressive selling campaign. Our 1906 models embody the most advanced principles of Automobile construction and no expense is being spared in order to make the Wayne Cars perfect in every detail.

The Wayne Company believes in RECIPROCITY. We want to be on the most cordial terms with our agents and we want the agent to make money. That's the only way that both of us can succeed.

Better get in touch with us for 1906. It is not too early to write today.

Wayne Automobile Co., ... Detroit, Mich.

G & J TIRES

IN THE

Mt. Washington Climb

**Stanley Steamer Makes the Record
For Light and Middle Weight Cars**

THE STANLEY MOTOR CARRIAGE COMPANY.

Newton, Mass., U. S. A., June 25, 1905.

G & J Tire Co.,
Boston, Mass.

Gentlemen:—

I have just returned from our Mt. Washington trip and have no doubt you will be interested to know what success we had with the G & J tires with which our two cars were equipped. Both cars ran over the road from Newton and back with two passengers and baggage, and each made three trips up Mt. Washington, one trial and twice in races, and we never had to pump up the tires on either machine after leaving the factory, and they gave the most perfect satisfaction.

Both machines made fast time, one 22 min. 17 $\frac{1}{2}$ sec., and the other 30 min. 19 $\frac{1}{2}$ sec., consequently the tires were subjected to severe strain and were capable of standing it.

Yours truly,
STANLEY MOTOR CARRIAGE CO.
Per F. E. Stanley.

**Cameron Makes the Best Record for
Gasoline Cars of the Runabout Class**

THE JAMES BROWN MACHINERY COMPANY.

Pawtucket, R. I., July 27, 1905.

G & J Tire Co.,
Boston, Mass.

Gentlemen:—

On the 8th of November, 1904, we placed a set of your tires on the Cameron racer for Providence races. We have participated in all the races and hill climbs in New England since that time. We drove from Pawtucket to Mt. Washington and made four trips to the top of Mt. Washington. The driving tires have not been touched since they were put on the car. We have not had the slightest delay or accident at any time on account of tires. They seem to hold the air better than any tire we have ever used.

Yours truly,
THE JAMES BROWN MACHINE CO.
F. F. Cameron.

G&J TIRE CO.

INDIANAPOLIS

Boston

Buffalo

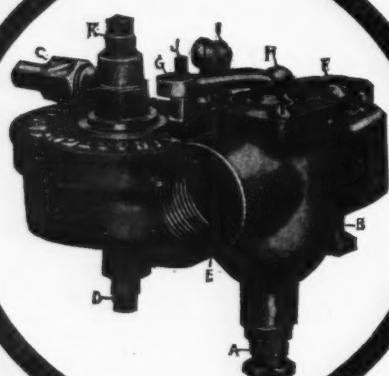
Cleveland

Detroit

Chicago

Denver

San Francisco



KINGSTON

1906 TYPE-K- AUTOMATIC CARBURETOR

EASY TO UNDERSTAND EASY TO OPERATE

Fuel controlled entirely by equalizing automatic air valves.

Will increase POWER and CONTROL of any 1905 FORD or OLDS car, or money back.

Positively will not accumulate fuel in, or CLOG LONG INLET PIPES.

Perfectly adapted to gasoline cars, boats, airships and motors for any kind of service.

Built for business by the oldest manufacturers in the business.

OVER 29,000 KINGSTON CARBURETORS IN USE

KINGSTON MUFFLER



**IMPROVED
FOR 1906**

BYRNE, KINGSTON & CO.,

KOKOMO, INDIANA, U. S. A.

Classification Distinctive...WHY?

The Lightest, the Strongest, Most Durable, Most Efficient, Best Finished. Attractive in Rich Finish and Design, Simply Manipulated.



Absolutely Safe, Perfectly Clean, Best to Ride, Most Economical to Keep. Always Satisfactory. A Carriage Any Lady Can Drive.

THE BAKER ELECTRIC

SEND FOR OUR BK CATALOG

THE BAKER MOTOR VEHICLE CO. Cleveland, Ohio

Chicago Agents: PARDEE-ULLMANN CO., 1218-20 Michigan Avenue, Chicago

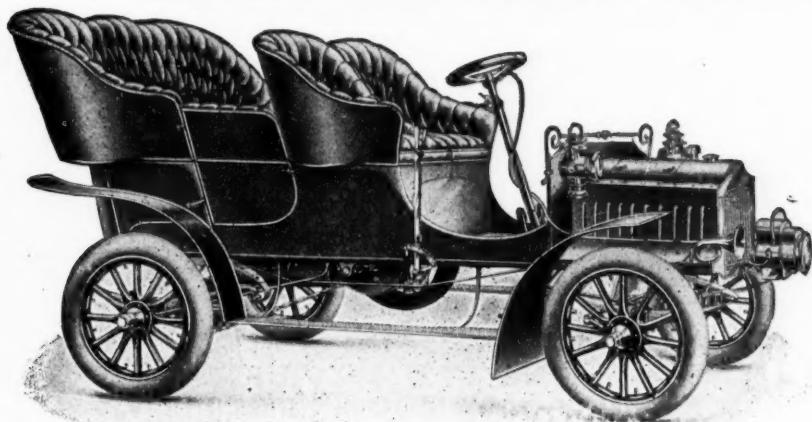
The Powerful DOLSON

The Strongest Car in America at the Price

\$1350

COMPLETELY EQUIPPED AND READY FOR EXTENDED TOURING

ALL KINDS OF TALKING POINTS AND REAL MERIT



The DOLSON is the strongest, most powerful car in America for its price. It is a hill climber par excellence, has plenty of speed, easy of control, beautifully designed, handsomely finished and upholstered. Wheel base, 90 inches. Wheels, 30 inches. Tires, 3½ inches front, 4 inches rear. Large, roomy tonneau, seating five persons comfortably.

In design, material, workmanship and specifications, the **DOLSON** compares favorably with high-priced cars, and it is listed at a price that enables agents to sell quickly and duplicate orders. We can and will make deliveries as specified.

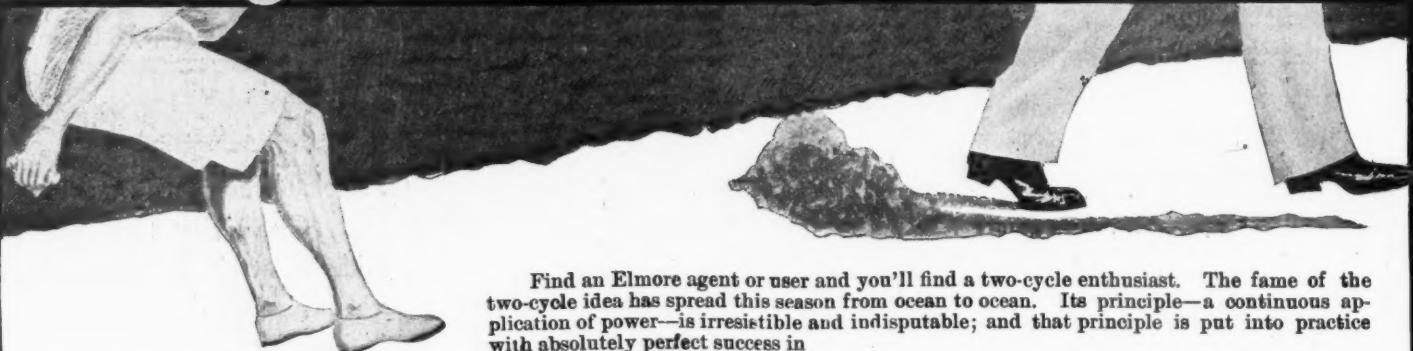
Don't wait too long. Get in line now.
Write for further particulars.

1905 MODEL C. Price, \$1350.00

Including two oil side lamps, acetylene head light, French horn, mats, full tool equipment, ready for extended touring.

JOHN L. DOLSON & SONS, : : Charlotte, Michigan.

A Long Jump or Two Short Steps



Find an Elmore agent or user and you'll find a two-cycle enthusiast. The fame of the two-cycle idea has spread this season from ocean to ocean. Its principle—a continuous application of power—is irresistible and indisputable; and that principle is put into practice with absolutely perfect success in

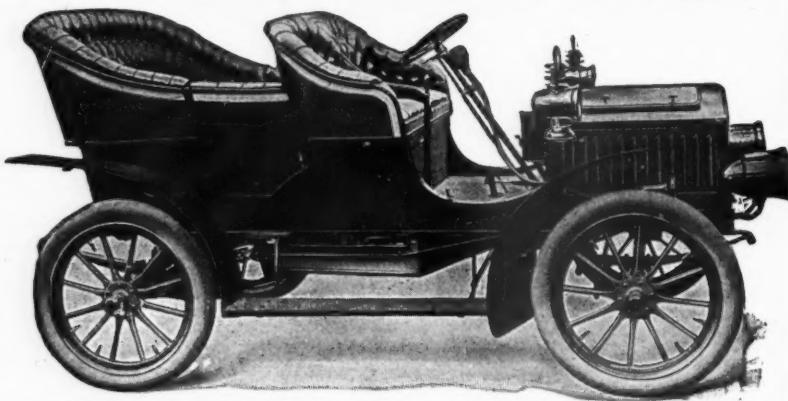
THE TWO-CYCLE ELMORE

Picture to yourself two men—one trying to cover the ground in long, hard jumps, the other forging ahead in quick, short steps. The first is the four-cycle—and bound to lose against the two-cycle with its even, steady gait. We have a book called "A Long Jump or Two Short Steps," which explains this in A B C style.

Better still, we have a record of victories in every test worthy of the name. Better still, we have the every-day testimony of thousands of users to which you can easily refer.

The Elmore two-cycle engine is no longer the "coming" engine—it is here. You'd better join the army of enthusiastic converts. Ask your agent or write to us.

Representatives: A. E. Ranney & Co., New York; Gthrop & Wister, Philadelphia; Seneca Auto Co., Rochester; Young & Miller, Detroit; Hein & Casper, Milwaukee; W. W. Leathers Co., St. Louis; Lowry Mfg. Co., San Antonio; J. A. Rosestee, Los Angeles.



THE ELMORE MFG. CO.

2304 Amanda Street

CLYDE, OHIO

QUEEN MODEL F

\$800.00

RUNABOUT

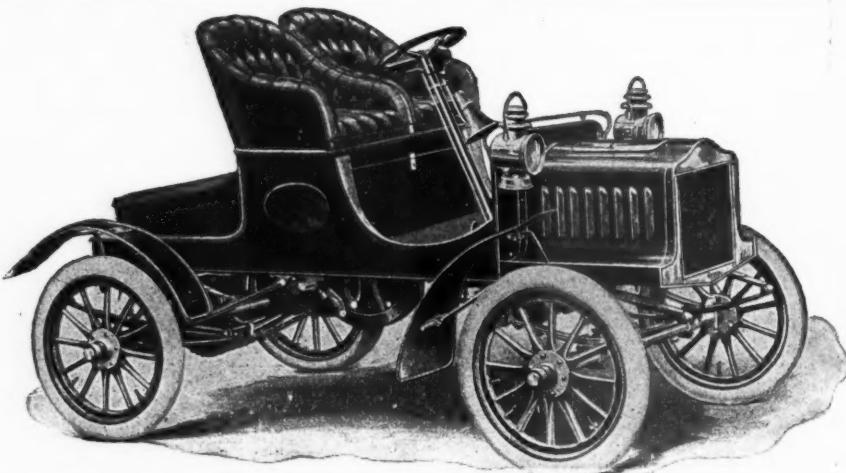
14 Horse Power

76-inch Wheel Base

28-inch Wheels

3-inch Tires

VERY LIGHT IN WEIGHT



WRITE FOR CATALOGUE SHOWING 18 H. P. DOUBLE
DOOR SIDE ENTRANCE TOURING CAR FOR \$1,000.00

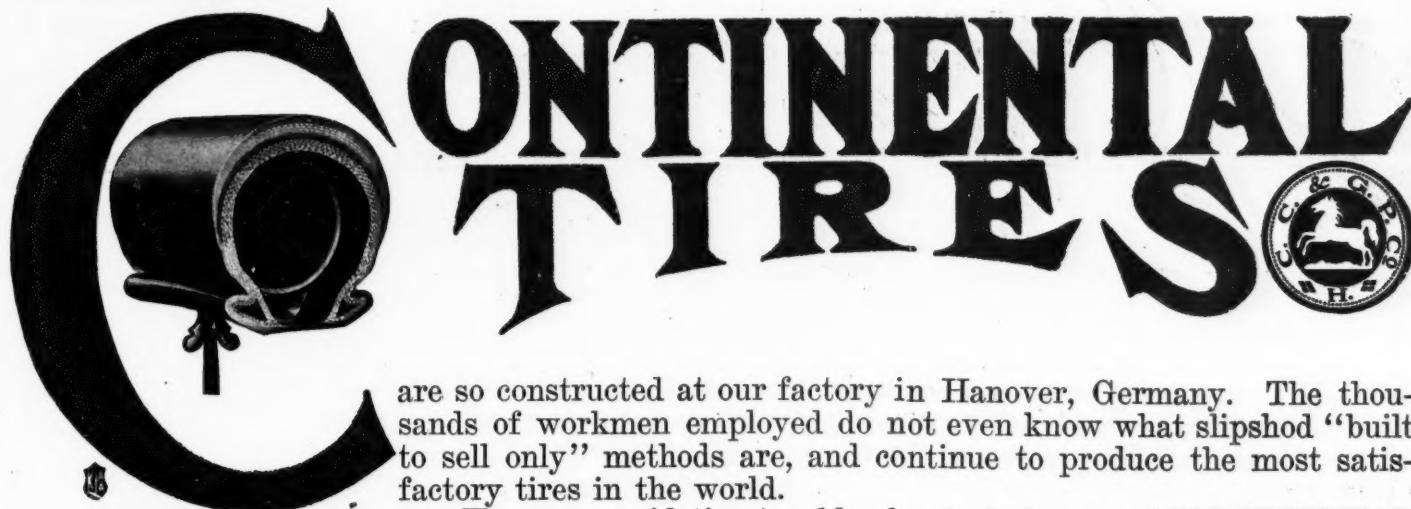
THE C. H. BLOMSTROM MOTOR CO.
1284 River St., DETROIT, MICH.

NEW YORK AGENT: C. A. Duerr & Co., Cor. 58th St. and Broadway.
PHILADELPHIA AGENT: The Motor Shop, 317-319 North Broad St.
ALLEGHENY, PA.: The Allegheny Auto Co., 711 Jackson St.

CHICAGO AGENT: Harry Branstetter, 1466 Michigan Ave.
BOSTON AGENT: F. E. Wing Motor Car Co., 66 Stanhope St.
DENVER AGENT: Mathewson Automobile Co., 1420-1422 Court Pl.

Fancy names given to experimental methods of constructing automobile tires may induce a few of the uninitiated to try "new fangled" ideas that are expected to lead them out of the wilderness of tire troubles.

However, as bread is the staff of life, so tires are the foundation of automobiles, and tires built on tried out principles of thorough workmanship and honest material are the kind you want and should get.



are so constructed at our factory in Hanover, Germany. The thousands of workmen employed do not even know what slipshod "built to sell only" methods are, and continue to produce the most satisfactory tires in the world.

You can avoid tire troubles by insisting on "**CONTINENTAL TIRES**," and under no circumstance allow any one to persuade you to experiment with unknown and untried makes. Send for Booklet and Testimonials to

Department M A,

THE CONTINENTAL CAOUTCHOUC COMPANY,

Factory: Hanover, Germany.

Emil Grossman, General Manager
43 Warren Street, NEW YORK.

Samson sur Continental covers for wet city streets—non-slipping—carried in stock.

Colorado

Every one who goes to Colorado reports "a splendid time."

No wonder.

From the moment you get there until you leave the days are fully taken up with *splendid outdoor sports*—a score of different forms of recreation.

And the Colorado air and sunshine, mountain scenery and crystal drinking water constitute the best medicine possible to find.

Fast through trains on the Rock Island equipped with standard and tourist Pullmans, wide-window, electric-lighted chair cars and coaches cooled by electric fans.

Direct line to Denver as well as to Colorado Springs and Pueblo. Low rates daily—a special bargain August 20 to September 4.

Full information at this office.



JOHN SEBASTIAN

Passenger Traffic Manager

CHICAGO

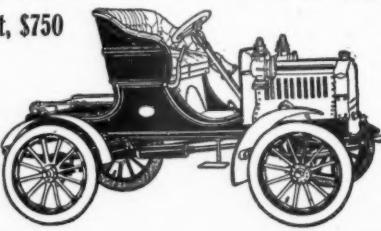
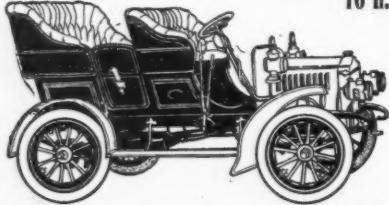
"The Maxwell"

Low Cost of Up Keep

The car that keeps repair bills down, not only makes new friends but keeps the old ones. The owner of a Maxwell does not have to live near a repair shop in order to get any use of his car; nor is he constantly confronted with the possibility of a long walk home. He has an automobile that he can absolutely rely on. The longer he has it the more he realizes that fact and the more he talks about it to his friends. Right there is the basis of the Maxwell popularity.

16 h. p. Touring Car, \$1400

8 h. p. Tourabout, \$750



Maxwell-Briscoe Motor Co.

Members American Motor Car Manufacturers' Association

TARRYTOWN, N. Y.

New York City Salesroom, 317-319 W. 59th St.

Chicago Distributors: Western Automobile Co., 1409 Michigan Avenue, Chicago, Ill.

Eastern New England Distributors: Randliff Motor Car Co., Boston, Mass.

NO DANGER AHEAD



THEY ABSOLUTELY DO MAKE ANY GOOD LAMP THROW THIS KIND OF A LIGHT.

FOR - USERS - OF - THE
PREST-O-LITE
ACETYLENE
GAS - TANK

MORE THAN 5000
OF THEM SOLD
THIS SEASON

They make
night driving
SAFE.



With a Prest-o-lite tank fitted to an automobile, a large and unfailing supply of pure, dry acetylene gas is always at hand for use in any number of headlights or searchlights for months.

WRITE FOR BOOKLET.

PREST-O-LITE GAS TANK CO.
350 North Illinois Street, Indianapolis

SEARCHLIGHT SWINDLERS



The success of the Rushmore Lens Mirror Searchlight has been so complete that as a matter of course the lantern makers have been compelled to either try to imitate it or go out of business.

A number of them have conspired to keep us out of the automobile shows, have claimed that we do not make the celebrated Rushmore Lens Mirror and that they get their cheap flat lenses from the same place, and have resorted to every contemptible trick to deceive people into buying their trash.

Certain so-called jobbers have tried to push the sale of the imitation lights by issuing lists of what are insinuated to be our prices in comparison with their alleged cheap prices. The statement that we ask the prices quoted is a deliberate and malicious lie.

The prices they offer are but a few cents lower than ours, while the fake lights they offer are by comparison not worth their weight as junk.

Some of the fake jobbers refuse to furnish the Rushmore light when requested to do so on the plea that we cannot make delivery. That statement is likewise a deliberate lie. They offer to refund your money if not as represented, but you had better hold on to your cash.

We do not ask any money in advance, but will send the Searchlight on ten days' free trial to anyone worthy of credit. The fake jobber can make but 25 per cent to 30 per cent on the Rushmore, while he clears 100 per cent to 200 per cent on the fake lights which he obtains on consignment. Do you wonder that he is willing to cheat you?

Our prices are the lowest for the quality and we ship from stock.

Rushmore Dynamo Works, - Plainfield, N. J.

PENNSYLVANIA  CLINCHER

The value of a Tire is measured not by dollars, but by the Odometer.

The Tire which travels furthest without repairs is the most valuable to YOU.

The Tire which carries your Car softly over the road is the most valuable to your MOTOR.

PENNSYLVANIA RUBBER CO.
JEANNETTE, PA.

"Firestone"

THE TEST THAT SELLS IS THE TEST THAT TELLS

SEND FOR "EVIDENCE"

Firestone Side-Wire Tires

outsell every other tire
on the market
almost TWO to ONE



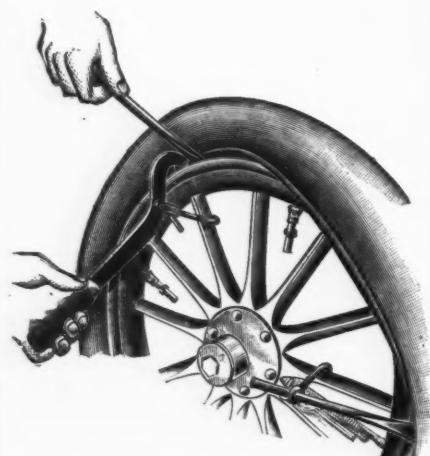
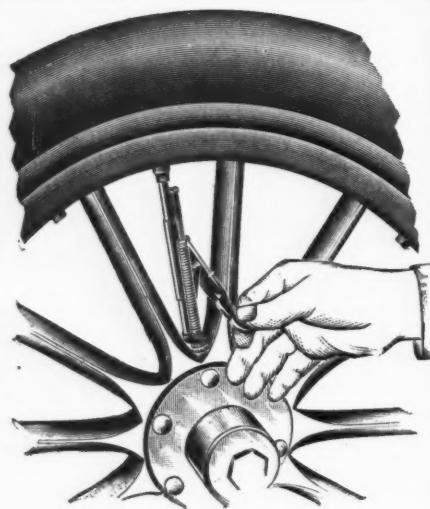
Such a Record

admits of but one conclusion; namely, that experience and test have proven the superior merit of this tire above all competition.

"Then why not Firestone?"

FIRESTONE TIRE & RUBBER CO., :: Akron, Ohio

New York Chicago Philadelphia Boston St. Louis San Francisco Los Angeles



"UNEEDME" TO OVERCOME YOUR TIRE TROUBLES

See How Easy it is to Remove and
Replace Tires with these Tools.

It is a recognized fact that the genuine Clincher Tires have never been equaled for efficiency and safety. The only drawback was the one to three hours required with ordinary tools for removing and replacing tires. Of the hundred-and-one schemes devised, none have proved satisfactory but the

"UNEEDME" TOOLS SIMPLEST—SAFEST—SUREST

Simplest, because there is nothing to get out of order; Safest, because there are no sharp points or edges to cut the tire; Surest, because no matter what the size of the tire or the inexperience of the operator the same can be removed in three minutes.

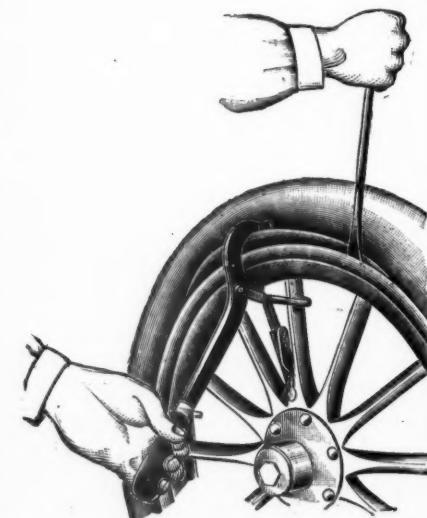
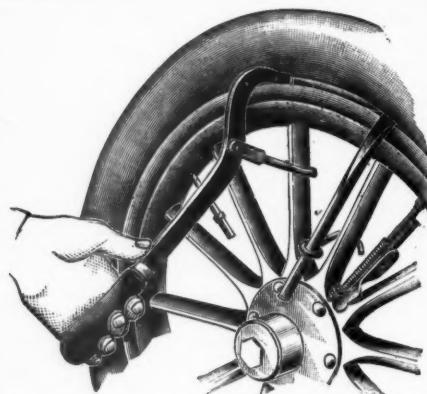
THINK OF THE SAVING IN
TIME, MONEY AND TROUBLE

It increases the life of the tire—cannot cut or tear, and eliminates the "warts" common to other processes. Once used you wouldn't be without them.

PRICES
Set of Three Tools, Black Enamel..... \$3.50
" " Nickel Plated..... 4.00
Automatic Lug Elevator, 50c extra.

*Write for Booklet.
Special Inducement to Dealers.*

"Uneedme" Tool Co.
[COLUMBUS, OHIO.]





Garford Touring Car Parts

We have commenced the construction of a definitely limited number of sets of touring car parts of the VERY HIGHEST CLASS for the season of 1905-6. These parts comprise:

Rear Axle, Independent Shaft Drive, Ball or Plain Bearing, Weight Carried Entirely on Axle Tube; Front Axle, I-Beam Section Nickel Steel Bed, Ball or Plain Bearing; Change Gear, Steering Gear, Clutch, Distance Rod and Bracket, Propeller Shaft, Levers for Emergency-Brake and Change-Gear.

Parts of one size are suitable for cars weighing up to 2400 lbs. and of 30 h. p. Parts of the other size are suitable for cars weighing up to 2800 lbs. and of 50 h. p.

Write for Circular No. 12

THE GARFORD COMPANY ... Elyria, Ohio

SALES MANAGER: HAYDEN EAMES, Cleveland, Ohio

SECOND ANNUAL Long Branch Automobile Carnival

**Long Branch, New Jersey
August 18th to 26th, Inclusive**

Automobile Show, West End Casino, August 21st to 26th.

Races at Elkwood Park, August 18th and 19th.

Non-stop Automobile Run, August 21st to 26th, for long distance record.

Six-day Tire Test, August 21st to 26th.

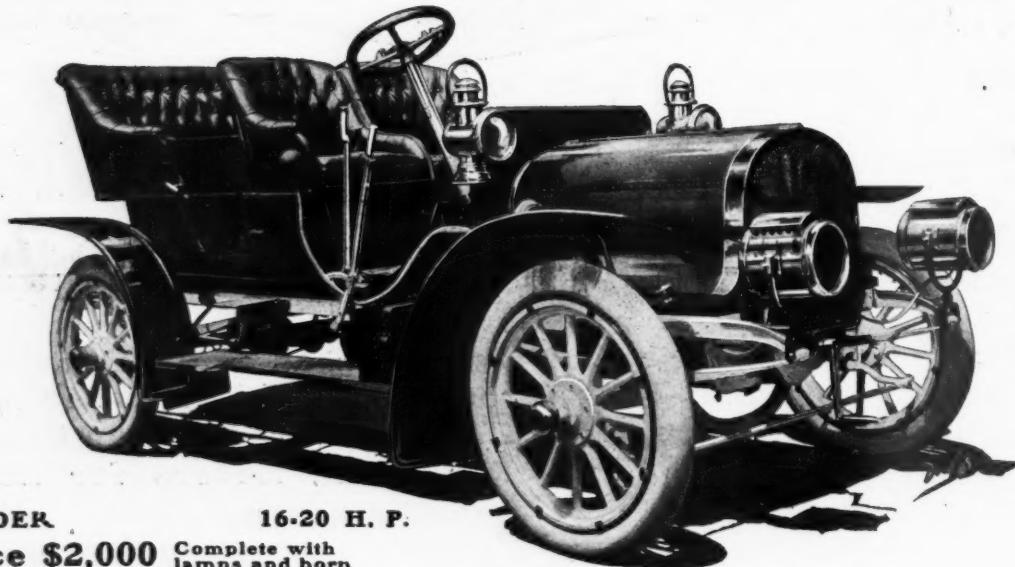
August 26th, Grand Floral Parade.

The Carnival will conclude with a gold souvenir automobile ball at the West End, Long Branch.

Tickets of admission to the automobile show supplied free if stamped addressed envelope is sent to the Secretary of the Carnival, :: ::

W. J. MORGAN, 116 Nassau Street, New York

CORBIN CARS



4 CYLINDER

16-20 H. P.

Price \$2,000 Complete with lamps and horn

Prompt deliveries. Reliable, up-to-date and perfect air-cooled motor. Ideal light touring car. Built under direct control of the American Hardware Corporation, which is the best possible guarantee for workmanship and material.

The Corbin Motor Vehicle Corporation

NEW BRITAIN
CONNECTICUT

NEW YORK, 4 West 38th Street

BOSTON, 163 Columbus Avenue

PHILADELPHIA, 629 North Broad Street



Five-Ton Truck at Work

Result of Demonstration—5-ton Truck In Service—Chicago Telephone Co.

MAY, 1904					
TIME	Mileage	Loads	Pounds	Average Load	Daily Mileage
6 days.....	224½	15	178,088	11,872 pounds	37.4
6 days.....	226	12	132,544	11,045 pounds	37.6

Actual weekly saving over use of horses, **\$42.68.** This is not an "estimate," but is taken from Telephone Company's report. We have their order for 7-ton truck.

CHICAGO COMMERCIAL AUTO. MFG. CO.

2, 3, 5 and 7-ton Trucks

HARVEY, ILL.

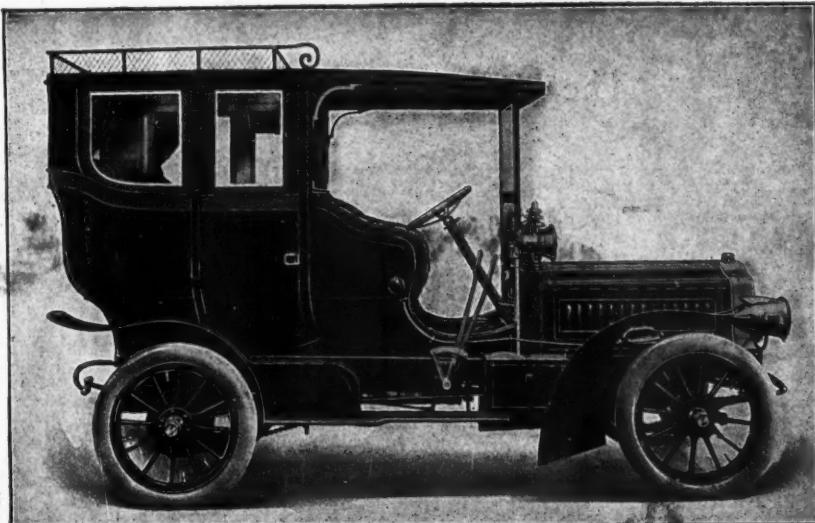
12 to 50 Passenger Cars

ANNOUNCEMENT!

Owners of 50 h. p.
Thomas Flyers

We are prepared to supply
Limousine Bodies
for
Winter Driving

Beveled plate glass—wide
doors—electric lights.



Seats five in the rear—upholstered in any color of leather or broadcloth
—speaking tubes—toilet sets, etc.

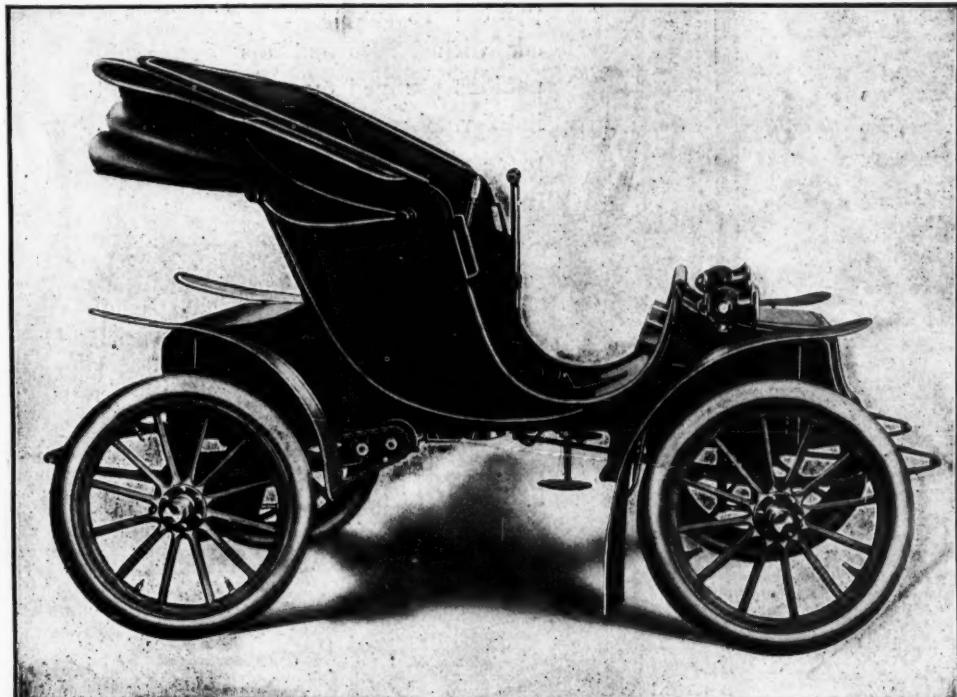
Order now from our agents or direct from

E. R. THOMAS MOTOR CO.,

1202 NIAGARA STREET
BUFFALO, N. Y.

The Columbus Electric

Double Chain Drive Solid Rear Axle



75 Miles on One Charge

Weight 1,400 Pounds

Any Speed up to 20
Miles Per Hour :: :

NOISELESS . . . ODORLESS
CLEAN . . . SIMPLE

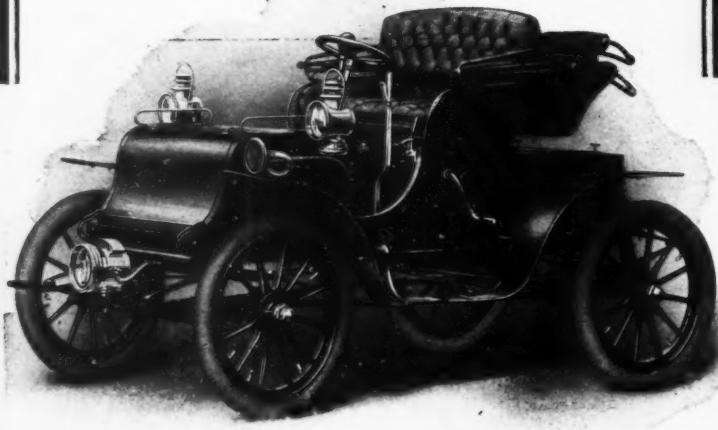
An Ideal Pleasure
Vehicle

FULL INFORMATION
SENT ON REQUEST

The Columbus Buggy Co., Columbus, Ohio

HAYNES

The Utility Car



Model L, \$1,350

The Handy Haynes

Is the name universally given our Model L, because it is instantly convertible from a two to a four passenger car without affecting speed or appearance.

The Haynes Car is recognized as the most practical of the world's automobiles. If knowledge is power, we are entitled to feel the strength of successful achievement, for our knowledge is the result of the longest experience and the severest tests in the history of the gasoline field.

We invite correspondence.

THE HAYNES-Apperson Co.

Kokomo, Ind.

Member A. L. A. M.

New York

Chicago



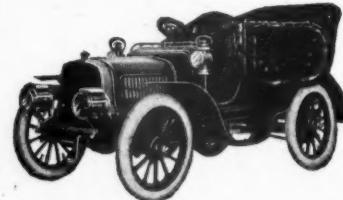
ANOTHER NEW ROAD RECORD

MADE BY THE

Pope-Toledo

One of the greatest long distance road records ever made by an American automobile has just been established on the Pacific coast, where D. A. Nares in a 30 H. P. Pope-Toledo covered 479 miles from Los Angeles to San Francisco in 24 hours 54 minutes.

The best time made by the Southern Pacific fastest train between these two points is 16 hours. The Pope-Toledo car with Nares and his three companions plunged over good, bad and indifferent roads and covered a distance exceeding that of the railroad line in a trifle over 24 hours.



POPE-TOLEDO, 30 H. P. \$3200

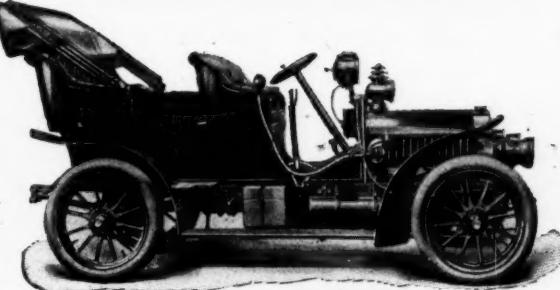
POPE MOTOR CAR CO.

TOLEDO, OHIO

M. A. L. A. M.

Cleveland

THE CAR OF SIMPLICITY



ADVERTISEMENTS ARE STUBBORN THINGS

—For instance—it is impossible, in the limited space of an advertisement, for any one to form a very comprehensive idea of the Simplicity and Reliability of the **CLEVELAND CAR**.

¶ In order to fully appreciate the merits of the **CLEVELAND** it must be seen and ridden in.

¶ It is always a pleasure for us to demonstrate the **CLEVELAND** for the benefit of all intending purchasers of an Automobile.

BRING AN EXPERT WITH YOU

¶ If you are too far away to visit our nearest agency for a demonstration, send for our new Catalog, which contains full particulars regarding the **CLEVELAND**.

Immediate Delivery. 18-20 H. P., \$2800

CLEVELAND MOTOR CAR CO.

384 Erie Street : : : : : Cleveland, Ohio

General Eastern Distributing Agent:

E. B. GALLAHER : 141 W. 55th Street, New York

Distributors:

BOSTON: Butler Motor Car Co., 998 Boylston St.

CHICAGO: The Bennett-Bird Co., 1404-1406 Michigan Ave.

MILWAUKEE: E. W. Arbogast Motor Co.

SOUTHERN CALIFORNIA: Worthington Garage, Los Angeles.

The Incomparable WHITE

The Car for Service



AN ECHO OF THE CHICAGO-ST. PAUL TOUR

Mr. M. W. Weems, who piloted the third White steamer which completed this memorable trip, writes us as follows:

"The proudest fact we have to report is that, so far as we were able to learn in conversing with those who came through, excepting yourself (Walter C. White) and Mr. Sheridan, we were the only car that made the trip that was not pulled out of the mud by a team. When the fact is considered that I had never operated an automobile until April and had never taken care of a car of any kind until I started on this trip, and that my companion had no experience, and cannot even now operate a car, I believe that our record speaks volumes for the efficiency, simplicity and ease of management of your cars."

If you want a car that you can drive and care for yourself, you had better investigate the White.

LITERATURE ON REQUEST

WHITE Sewing
Machine **COMPANY**
Cleveland, Ohio



Glidden Tour Participants say of **Diamond** Wrapped Tread Tires

ROBERT LEE MORRELL: Comparing my experience on the Glidden Tour with that of the tourists using foreign tires I come to the conclusion that Diamond tires are the best in the world.

ALBERT L. POPE: My 45 h. p. Pope-Toledo was fitted with Diamond tires in the Glidden Tour and made the 1000 miles without a puncture.

WALTER C. WHITE: The Diamond tires on my White car in the Glidden Tour were the same I used in the St. Paul Tour and without the least trouble in either trip.

W. N. EPPING: You have the best tire in the world—one which has eased the mind of the autoist more than any other. I had not the semblance of trouble in the Glidden Tour.

E. H. CUTLER: Diamond tires on our Knox car in the Glidden Tour gave no trouble and also none during 500 miles since run.

E. A. GILMORE: Nothing better could be asked for in the way of tires than the Diamond Wrapped Treads on my surrey type Rambler in the Glidden Tour.

CHAS. E. WALKER: No trouble whatever with Diamond tires on our Pope-Hartford in the Glidden Tour, except picking up two nails.

EZRA H. FITCH: The Glidden Tour makes 2500 miles of rough riding since putting Diamond tires on my White car, and I have never had such perfect tire satisfaction.

AUGUSTUS POST: I had no trouble in the Glidden Tour and gave my Diamond tires not so much as a thought.

GEO. H. TYRRELL: I will match Diamond tires against anything in the world; did not even pump my tires in the Glidden Tour.

CARL H. PAGE: Experience with Diamond tires on my White car in the Glidden Tour only confirms my opinion of the desirability of using Diamond tires whenever possible.

GEO. OTIS DRAPER: I had no tire trouble on my Packard car in the Glidden Tour; have had but one puncture the entire season.

THE DIAMOND RUBBER CO.
AKRON, OHIO

National Motor Cars

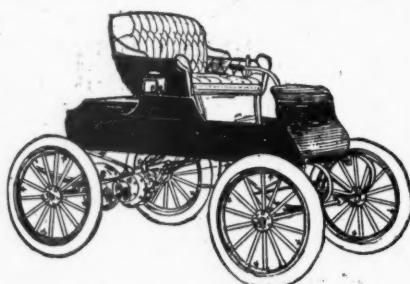
"WATCH FOR THE ROUND RADIATOR"



National
Model C.
24-30 H. P.
4 cyl., 4 $\frac{1}{4}$ x5

A touring car decidedly in advance of the times.
A type of car that will be extensively copied in the near future.
Ample power and speed, perfect control.
All working parts simply arranged and *remarkably accessible*

National
Electric
Runabout



One of several handy little electric cars which are unsurpassed for convenience and comfort. Write for our catalogues.

NATIONAL MOTOR VEHICLE CO.

Members American Motor Car Manufacturers' Association, Chicago.

1006 East Twenty-second Street, INDIANAPOLIS, IND.

THE MOLINE



12 Horse Power

Model "D" \$1000

Double Cylinder Opposed Motor. [4 $\frac{1}{2}$ in.x4 $\frac{1}{2}$ -in.]
86-inch wheel base. 30-inch wheels. 3 $\frac{1}{2}$ -inch tires, rear;
3-inch front. Detachable tonneau with wide side entrance.

Model "B"—4 Cylinder, 18-20 H. P. Touring Car, \$1600.

MOLINE AUTOMOBILE COMPANY

Members American Motor Car Manufacturers' Association, Chicago.

EAST MOLINE, ILLINOIS

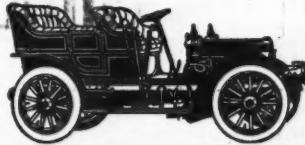
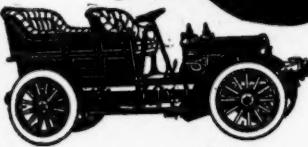
MEAD MOTOR CO., Chicago Agents

Locomobile

The Locomobile Company of America, Bridgeport, Conn.
Member Association Licensed Automobile Manufacturers.

NEW YORK, Broadway and 76th St.
PHILADELPHIA, 249 N. Broad St.

BOSTON, 15 Berkeley St.
CHICAGO, 1354 Michigan Ave.



KNOX



Knox Model F-3 Surrey. Price \$1,750

The most magnificent convertible car ever built. Seats 2 or 4 persons. Design equally satisfactory whether rear seat is open or closed. A two cylinder, 14-16 H.P. air-cooled car. Price \$1,750. Reliable and economical. No chauffeur needed.

KNOX AUTOMOBILE CO.

SPRINGFIELD,
MASS.

Member
A. L.
A. M.

Catalog on
Application

Agents
in all
principal
cities.

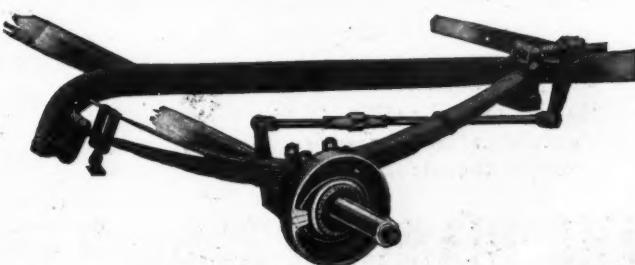
ADAMS-FARWELL CAR

The Adams-Farwell is equipped with variable strength springs as shown in cut. These springs provide ample strength for the heaviest loads, and yet not too stiff for light loads.

No. 30 in the Chicago-St. Paul tour was an Adams-Farwell with brougham body and equipped with the above springs. No. 30 was the only brougham type car to make the entire tour. No. 30 was the one that arrived in St. Paul fourth out of the seven that finished.

SEND FOR CATALOGUE

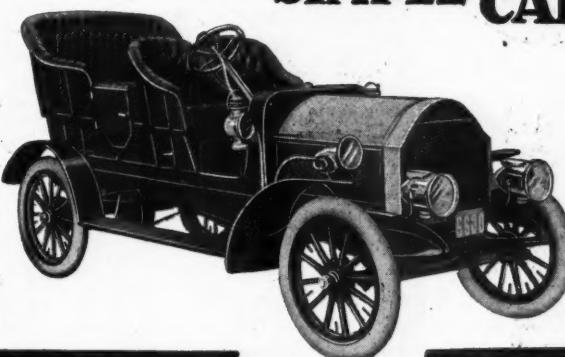
THE ADAMS COMPANY,



:: DUBUQUE, IOWA

GAS-AU-LEC

"THE SIMPLE CAR"



A 40-45 H. P. 4-cylinder, 4-cycle engine, five passenger, side entrance, Gasolene Touring Car of the Highest Grade.

WITHOUT Starting Crank; Cams; Valve Gearing;
Change Speed Gears; Rocker Shafts; or
Clutch; Tappets; Complications

Every movement of the motive power and the car, from a state of absolute rest, forward at any speed or reverse, is controlled by one lever, operated either by hand or foot, as preferred. Positively no other speed or movement controlling device of any kind on the car. Triple brakes—irreversible steering gear.

The GAS-AU-LEC is the Simplest Gasolene Car in the World
—both as to construction and control, and the easiest to operate and maintain.

ELEGANT IN FINISH LUXURIOUS IN APPOINTMENTS
BUILT BY SKILLED WORKMEN FROM THE BEST MATERIALS OBTAINABLE
CORWIN MANUFACTURING CO.

Formerly Vaughn Machine Co. PEABODY, MASS., U. S. A.
"Marks a New Era in Automobile Construction."

WARNER AUTO-METER

WHEN touring and you strike a stretch of road as smooth as a race track, wouldn't you like to know exactly how fast you are going?

WHEN the sign board tells you not to go through town faster than 8 miles, wouldn't you like to keep within that limit for the time being?

IF some self-important town constable lands you before the village magistrate, wouldn't you like to own an Auto-Meter as a witness in your behalf?

DON'T you know that the Warner Auto-Meter tells you accurately how fast you are driving and how far you have gone?

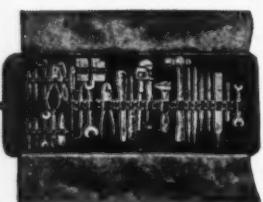
TELLS YOU THE TRUTH

Send for Catalogue and "Indisputable Evidence"

WARNER INSTRUMENT CO., 55 Roosevelt St., Beloit, Wis.



AUTO SUPPLIES OF EVERY DESCRIPTION



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ontinent Tires, French Horns, French and German Goggles, "La Rapide" Caps, Gloves and Dusters, Tire Cases, "Weed" Non-Skid Chains, Rain Aprons, Spark Plugs (all makes), Packard Ignition Cables, Kingston Carbureters, Mufflers, Dry Storage Batteries, Speedometers, Odometers, Eight Day Clocks, Oils and Greases, French and American Pumps, Repair Tools and Wrenches, Whitney Chains, "Continental" Lamps

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The Motor Car Equipment Co.

IMPORTERS, MANUFACTURERS AND JOBBERS OF AUTOMOBILE SUPPLIES

55 Warren Street NEW YORK 1645 Broadway



THIS SOLAR PARABOLENS HEADLIGHT

throws most powerful beam of any lamp made, yet burns cool. Simple, safe and sure, no better lamp can be built. The most your dealer will say about the next best is that it is "just as good as a SOLAR"—but why not buy the standard and dodge the second best?

We stand back of every SOLAR lamp with a guarantee to you—a warranty that leaves no room for risk on the buyer's part. You can't buy better lamps—whether oil or acetylene.

Write for booklet—or ask your supply man.

BADGER BRASS MFG. CO.
KENOSHA, WIS.
New York Office, 11 Warren St.

Have you seen the new **KOKOMO** Mechanically-Attached AUTOMOBILE TIRE ?

*It is just what you
Have been looking for*

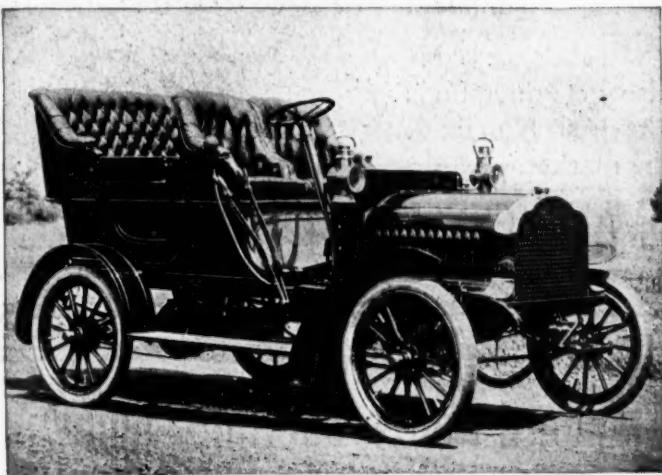
Quickly attached and detached.
Creeping and Rim Cutting entirely avoided.
Made of the very best material and workmanship
throughout.
Write us for full particulars.



Kokomo Rubber Co., Kokomo, Ind.

\$1400
12-15 H. P.
Compound
\$1400
12-15 H. P.

Model Four

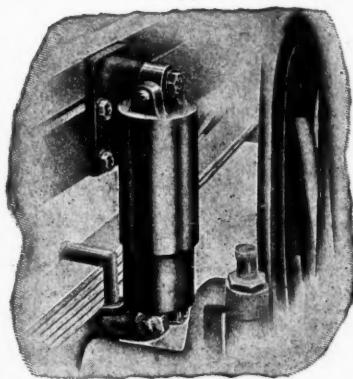


Simple and Reliable

Strong and Durable

A powerful light Touring Car of the most up-to-date construction that runs easily with no vibration, and has that quality of workmanship found only in cars of the highest grade.

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THE E. H. V. CO.MIDDLETOWN
CONNECTICUT**GOODBYE**

JOLTS
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BUMPS
AND
SHOCKS

of every nature

PATENT ALLOWED.
See illustrated description in Motor Age
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Automobile Air Cushion
SPRING DEVICE

Permits the use of Flexible Springs on your car and a good steady speed over roads as they come. An investment paying 50% to 500% in cash and large dividends in comfort.

NO Bumping Axles, Broken Springs, Disarranged
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SAVES Tires, Springs, Motor and Transmission,
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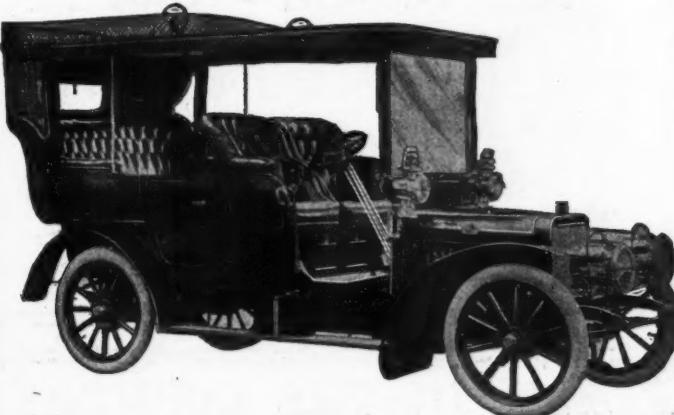
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GENERAL SALES AGENTS UNITED STATES AND CANADA
P. O. Box 820, Buffalo, N. Y.

Agencies: NEW YORK, E. J. Edmond, 52 W. 43d Street.
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Equipped with the Latest Magneto and Jump Spark
Ignition :: Perfect Automatic Throttle
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LET US PROVE THIS TO YOU

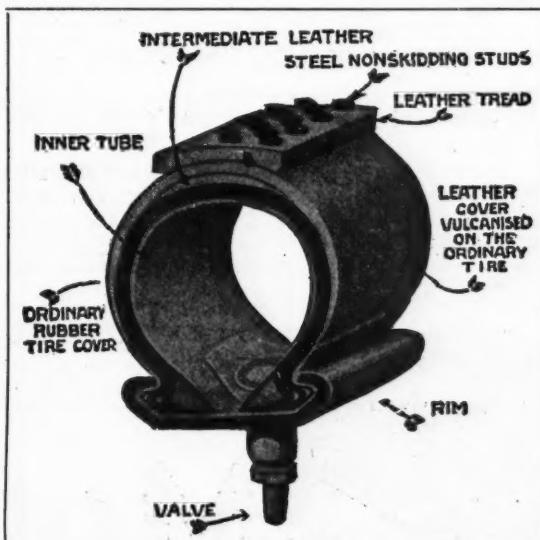
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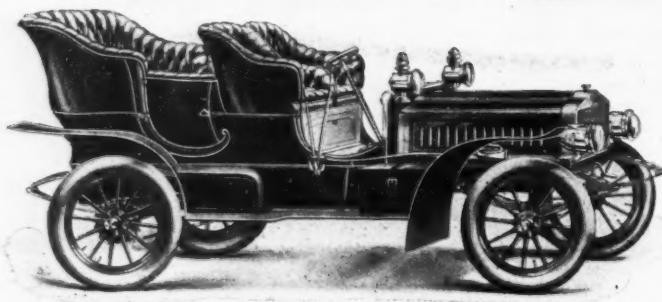
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THE FAMOUS FRICTION DRIVE

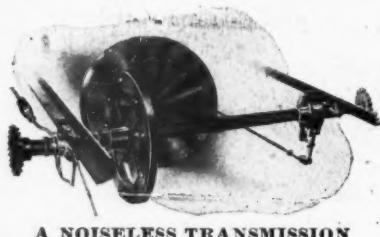


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GUARANTEED FOR ONE YEAR

Write for Catalogue
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Also get quotations
on the best Runabout
on the market.



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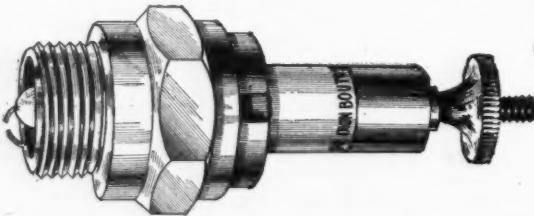
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Members American Motor Car Manufacturers' Association, Chicago.

FIRST IN THE COUNTRY

First in the Hearts of the Automobilists

The one standard automobile plug of the world. The one that has been used for years and is still considered the best plug on the market, regardless of the great number that are now being manufactured in this country and Europe.



The 1906 Genuine DeDion Spark Plug

The above illustration shows the 1906 Genuine DeDion Plug. We have just received the first of these plugs that have been imported to this country.

Price, \$1.50 each, mailed to any address.

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STEEL
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Use Our "A" Grade Steel Balls for ordinary bearings
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USE THE BEST BALL MADE

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For High Speed and Heavy Service

Our Capacity is 500,000,000 Balls per Annum

First Prize for Accuracy, Strength and Durability, at
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Largest Ball Makers in the World. Also Manufacturers of Ball
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Send for complete Catalogue and Ball Price List



Save Time, Money and Trouble, and
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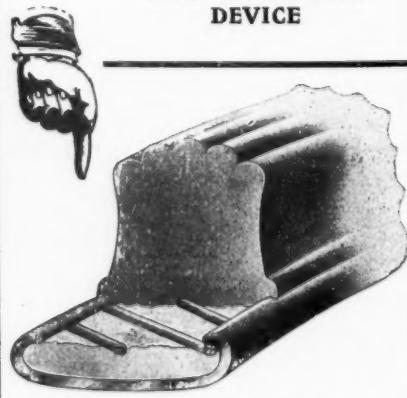
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Solid rubber or cushion types and made to fit any standard
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Resilient and "there with the wear"

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THE FASTENING
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Tire Fastener for Ordinary Work

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Electric Victoria-Phaeton

MARK LXI

We can now make immediate delivery of this beautiful carriage—the lightest, fastest, widest of radius, and most luxuriously furnished of any electric in its class. Divided Exide Battery. Enclosed Chain Drive.

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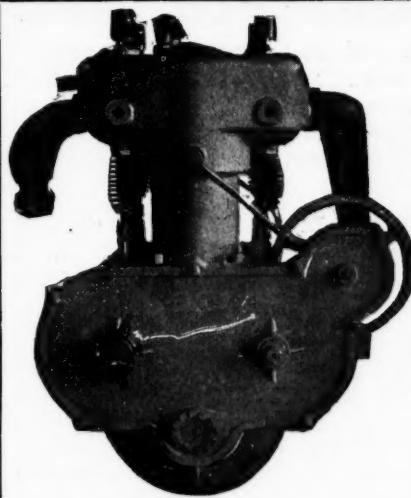
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Member Association Licensed Automobile Manufacturers.

Price, \$1,350. "De Luxe" Throughout

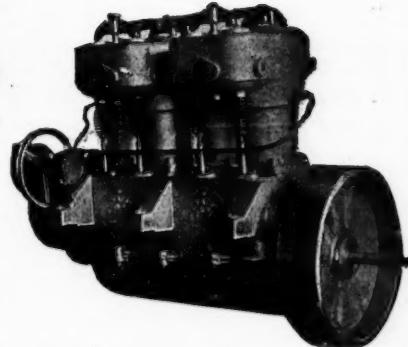


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THE HILL PRECISION OILER

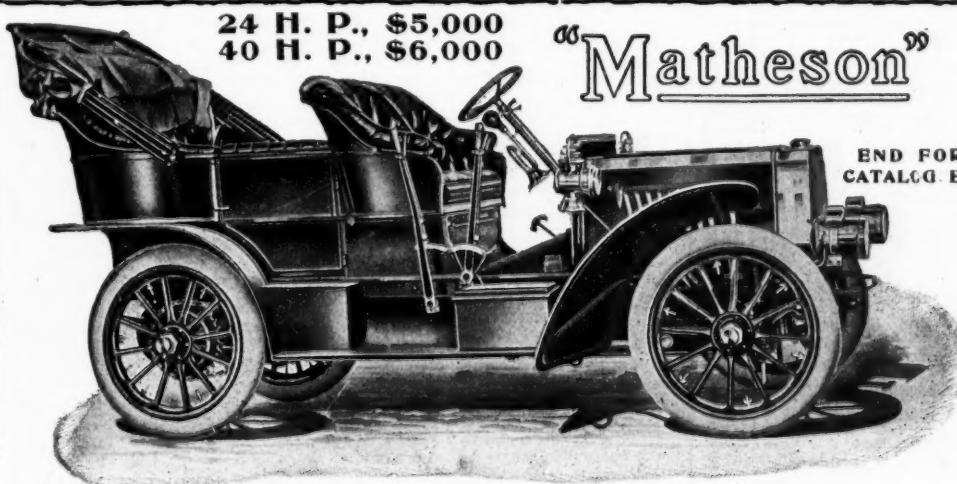
INSURES PERFECT LUBRICATION

Your Money Back if it
Does Not do the Work

It measures the oil, and uniformly forces exact quantities to each bearing it serves, regardless of the resistance, or of the varying resistance, in the different tubes. It feeds only when the machinery is in motion.

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832 Austin Avenue
CHICAGO, U. S. A.



24 H. P., \$5,000
40 H. P., \$6,000

"Matheson"

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CHARACTERISTIC FEATURES:

Self-starting from the seat.
Practically noiseless.
Absence of vibration.
Four-cylinder vertical engine.
Valves in the head.
Automatic carburetor, never requires adjustment.
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Irreversible steering gear.
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Long life—insured by using greater factors of safety in every vital part than ordinarily employed.
Speed—Guaranteed 40 to 60 miles an hour, according to H. P. gear.

MATHESON MOTOR CAR CO., Holyoke, Mass.
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"AMERICA'S FINEST MOTOR CAR"

**The Lea
"Speedistimeter"
tells**

speed, distance and time of day



Fastens to the dashboard and the figures are plainly read from the seat.

Extremely accurate and the clock has a high-grade 8-day marine movement.

Write for booklet B and proposition to agents.

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Sole Selling Agent for Motor Car Specialty Co., Trenton, N. J.
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THE LIMIT



OF UNFAILING CARBURETER EFFICIENCY

Here's Proof

From the
Four Wheel Drive Wagon Co.
of Milwaukee
Commercial Motor Vehicle
Builders

After expending about \$150 for various makes of carburetors and finding them all defective because of lack of range in throttling the engine, we were much pleased upon installing your Acorn carbureter.

We find this carbureter feeding the engine evenly and properly from the lowest to the highest speeds and WE DO NOT HESITATE TO RECOMMEND IT AS THE BEST CARBURETER WE HAVE TRIED.

IT PEG OUR ENGINE PROPERLY IN ALL OUR RECENT TESTS, HAULING AS HIGH AS 27,000 LBS. GROSS WEIGHT ON OUR TRUCK, NEVER MISSING EXPLOSION A SINGLE TIME. * * * ETC.
FOUR WHEEL DRIVE WAGON CO.,
H. Theo Hansen, V. Pres. and Mgr.

It's not what we claim, so much as what actual users say of

ACORN CARBURETERS

that proves their Sterling Reliability. A trial will convince anybody. Write

BLACK & KRUEGER
Milwaukee Wisconsin

STOP WASTING OIL--USE NON-FLUID OILS



FOR TRANSMISSION GEAR CASES

They lubricate every nook and corner of the transmission, but do not leak out of the case like fluid oils; thus last four times as long and are cleaner to use; also form a better cushion between the gears as they mesh, preventing wear and abrasion of the teeth.

Used by ELECTRIC VEHICLE CO., POPE MFG. CO., KNOX AUTO CO., F. B STEARNS CO., MATHESON MOTOR CAR CO., CORBIN MOTOR VEHICLE CORP., MARION MOTOR CAR CO., ACME MOTOR CAR CO., WALTHAM MFG. CO., and other leading manufacturers.

Can be obtained from your dealer or we will send FREE SAMPLE PREPAID

New York & New Jersey Lubricant Co.

14 Church Street, New York City

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Depots at Chicago, Denver, Cleveland, Buffalo, Washington and all leading cities

RAPIDLY MAKING FRIENDS AMONG AUTOMOBILISTS

"20th Century SOAP"

NOTHING CAN COMPARE WITH IT

As a cleanser and polisher of highly finished auto bodies and metal parts. As a reviver of luxurious upholstery and carriage cushions it stands supreme.

It contains no lye; is made of strictly pure vegetable oils and is an absolutely pure soap.

The pure oils of which it is made are very beneficial to the skin and keep the hands in good condition.

DOES TWICE THE WORK IN HALF THE TIME

"20th Century Soap" can be bought at almost any store in any of the following weights:

1 lb. Can, 10c	15 lb. Pail, 75c	60 lb. Tub, \$2.50
3½ lb. Pail, 25c	25 lb. Pail, \$1.15	or in Barrels

BUY IT TODAY—LET NOTHING INTERFERE

HOFFHEIMER SOAP CO.
CHICAGO

"LAZEMAN'S" PUMP

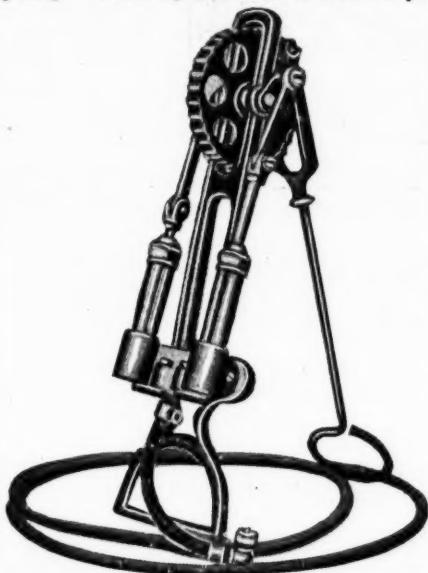
WITH A PUMP LIKE THIS
IT'S WISE TO BE LAZY

A NOVELTY—This double-cylinder pump is fitted with a dull-toothed wheel, which, when turned, works the pump. Jack up one rear wheel of your car, start your engine, slow speed, by means of the handle on the pump, apply the wheel to the tire of your car. The long tube on the pump will reach any wheel of your car. Your engine will pump up hard a 4-in. tire in less than one minute.

This is a decided winner—a *labor saver*.

Price, \$10.00

Sent Express
Prepaid upon
Receipt of Price



The Automobile Equipment Co
260 Jefferson Avenue DETROIT, MICH.

The Care of the Car

Washing the body of the machine, keeping the polished surface free from lubricator, road dust and gutter muck is just as essential to the life of an Automobile, as is the attention given the running gear.

Mobo, the new cleanser for Automobiles, will easily and quickly remove grease, dirt and grime and all traces of a hard run, without dulling or scratching the highly polished surface.

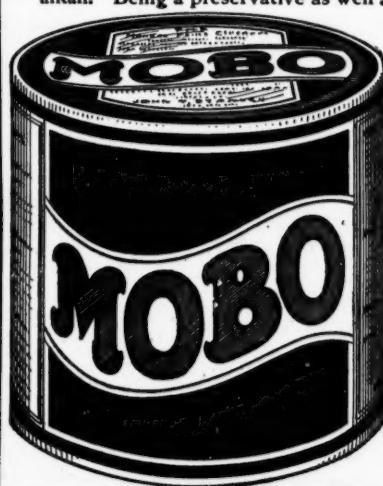
MOBO

is unlike common soap, as it positively contains no free alkali. Being a preservative as well as a cleanser, it prevents varnish or paint from peeling or cracking, and adds a fine gloss to the surface.

Mobo may be used with profit on leather goods, harness or woolen fabrics. Cannot harm the most sensitive skin, as it is a purely vegetable oil preparation and absolutely contains no free alkali. Put up in 2-lb. and 8-lb. cans; also in tubs, half barrels and barrels.

If your supply man does not keep *Mobo*, send us his name and address, and we will see your wants are supplied.

JOHN T. STANLEY
New York.



TESTING DIAMOND CHAINS



Every chain is tested to a point just below its limit of fatigue. To go beyond this would be to exceed the economic working load. This operation proves the material to be without defect. Replace your worn-out chain with a DIAMOND. It fits any standard sprocket.

TRADE MARK.

"Diamonds" are used as regular equipment on the following cars:

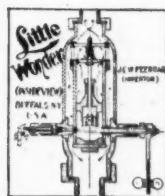
Studebaker	Dolson	Lane
Locomobile	Premier	Black Diamond
Pope-Toledo	Michigan	Stevens-Duryea
Thomas	Reo	Burt Mfg. Co.
Smith & Mabley	Mahoning	Caps Bros.
Austin	Sach Mfg. Co.	Veracity
Haynes-Apperson	Western Tool Works	Carlston
Apperson	General	New-Way
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Beverly	Buick	Fredonia
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Marlon	Woods	Whiting
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Diamond Chain ® Mfg. Co.,
Indianapolis

PATENTS PENDING IN ALL COUNTRIES

The Little Wonder Carburetor Manufacturing Company

347 Franklin Street
BUFFALO, N. Y.



This carburetor will fit all classes of motors, from one-horse power up, and is especially adapted to automobile and marine engines.

The "Little Wonder" Carburetor, used in connection with our Hot Air



Generator on the exhaust pipe, is guaranteed to increase your horsepower from ten to twenty per cent, economizing in fuel consumption, giving a perfect mixture in quantity and quality at all engine speeds; it is 100 per cent safer than the float-feed carburetor, and is positively guaranteed not to ignite or explode, and is absolutely impervious to flame or back-firing.

The "Little Wonder" Carburetor is hot-air jacketed, as enclosed cut shows, thereby increasing the vaporization of the gasoline, and giving a hot gas mixture under all atmospheric conditions. Our Carburetor will not leak, freeze, flood or cause any trouble, as is the case with other carburetors now on the market. Our object in placing this carburetor on the market has been to supply the increasing demand for an entirely automatic, simple, reliable and absolutely fireproof form of carbureting device. That we have succeeded in our efforts has been thoroughly proved by the appreciation of the many users and advocates of the pump-feed type of carburetor. In the "Little Wonder" Carburetor the air as well as the gasoline can be regulated at will by the operator. Our Carburetor is so simple that anyone of ordinary mechanical ability may perfectly adjust and apply same to motor.

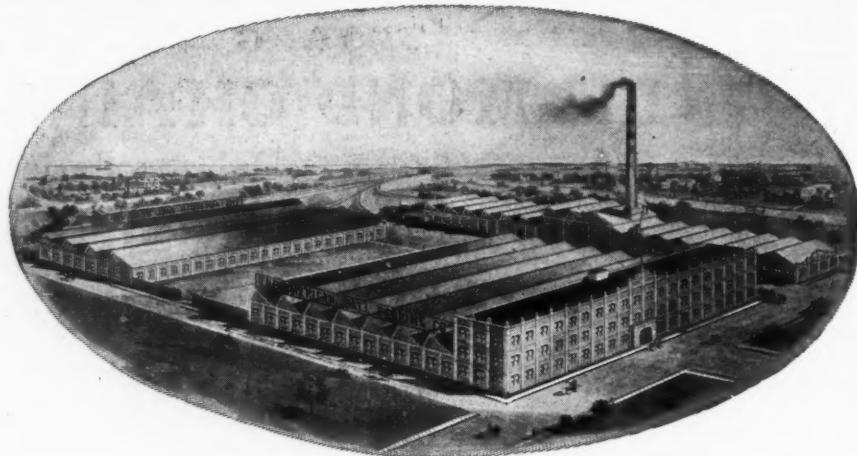
Prices quoted upon application.

Generator, listed \$10.00 Carburetor, listed \$15.00

Ask for quotation and give diameter of exhaust pipe, 1½" up. We build Gas Engines and Steam Engines; also Racing Machines for roadway and waterway, all combined in one. See cuts.

Ask for prices on our Wheel Crank for pulling off and on wheels. Respectfully yours,

J. C. W. FEERRAR, General Manager and Owner.



The output of COMPLETE FRONT and REAR AUTOMOBILE AXLES of this plant exceeds the capacity of all competition combined.

THE AMERICAN BALL BEARING CO.

L. S. & M. S. Railway and Edgewater Park CLEVELAND, OHIO, U. S. A.



The Von Schwarz Acetylene Burners

SOME ADVANTAGES

They are recognized Standard Burners the World Over

Accurate in consumption. Free from carbonization and other troubles, and they are licensed under Patent 589,342, August 31, 1897. This patent has been adjudicated by the U. S. Court of Appeal and IS VALID. We advertise not only our burners, but also those firms who confine themselves to equip their lamps with Licensed Burners. Is there any reason why you should equip your lamps with cheap infringing imitations? Protect your customers as we do protect you.

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None Genuine Without
J V S
on Tip and Pillar

GILSEY HOUSE

UP-TOWN

Corner 29th and Broadway
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Rates \$1.50 up

Cafe a la carte

GEORGE W. MOORE, Manager

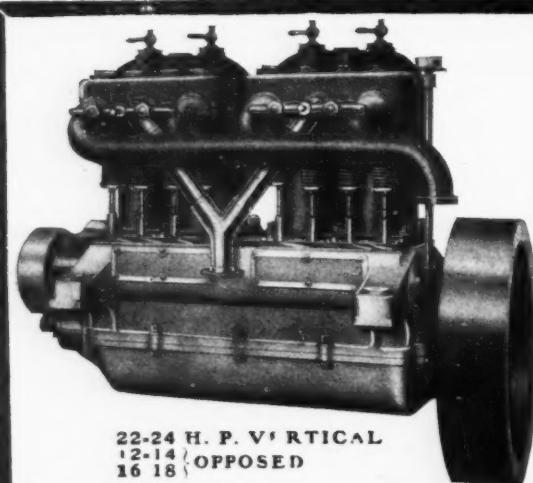
Double Service

Owners of automobiles or launches who use the Apple Automatic Sparker have no trouble with weak storage batteries or ignition faults of any kind.

With the Apple Automatic Sparker you can keep your storage batteries always charged and ready to give a strong, steady spark at all times. It is far ahead of any European Dynamo. Besides this, the Apple Automatic Sparker gives double service by giving ample power for three electric lights whether the engine is running or standing still.

We are Specialists in Ignition Apparatus. If you have ignition troubles of any sort, write us to-day.

The Dayton Electrical Mfg. Co.
75 Beaver Bldg. DAYTON, O.



"ARE YOU NEXT" TO THE FACT THAT THE NEW 1906 BEAVER MOTORS

MEET ALL REQUIREMENTS. POWER IN PLENTY. MORE THAN AMPLE BEARINGS. POSITIVE OILING SYSTEM.

WRITE FOR PARTICULARS.

BEAVER MFG. CO., MILWAUKEE, WISCONSIN.



Artificial daylight

is the best name for the bright, powerful light projected by

The Neverout
TRADE MARK

Mirror Lens Searchlight

You should know all about this wonderful searchlight and the new **Neverout**

patent safety gas producer

which makes gas only as needed and is safe, odorless and economical.

Write for free illustrated catalogue

ROSE MFG. CO., 912 Arch St.

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No.
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Non-breakable
Mangin
Mirror Lens
Searchlight
Projector
with swinging
bracket. Burns
acetylene gas.

ALUMINUM CASTINGS

Grade

GUARANTEED MAXIMUM STRENGTH



B For general machine casting, pinions, cog wheels, propeller screws, hydraulic press and pump barrels, piston rods, screw bolts for steam cylinder.

VERY TOUGH AND HARD.

S Bearing metal for bearings, thrust rings, slide valves, cross head jibs, piston rings, etc.

VERY HARD AND DURABLE,

but cannot cut the journal.

In ordering Phosphor Bronze Castings note adaptation of the qualities above given.

GUARANTEED MINIMUM WEIGHT



LIGHT MFG. & FOUNDRY CO.
POTTSSTOWN, PA.

"PILE-BLOC" BATTERIES

100 to 2000 Amp.-Hours



The "Pile-Bloc" Company
253 BROADWAY

Patented
March 14, 1905

Gee!! What a Cinch!!

Patented
March 14, 1905



"Albright" Spark Plug



You are then in position to laugh at the other fellow who is having spark plug troubles

If you haven't the ALBRIGHT, better get one and stop "cussing." If your dealer hasn't them, send us his name and address. REMEMBER, there is no other "JUST AS GOOD." "ALBRIGHT"

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SOLID SATISFACTION IN OWNING A
Premier Portable Garage



This house 16x16 feet
Price, \$300.00 f. o. b. your station,
East of the Mississippi
Unique and Attractive
in Outline
Solid and Roomy
Reasonable in Price
Prompt Shipments
(Ample in size to turn the
largest touring car)

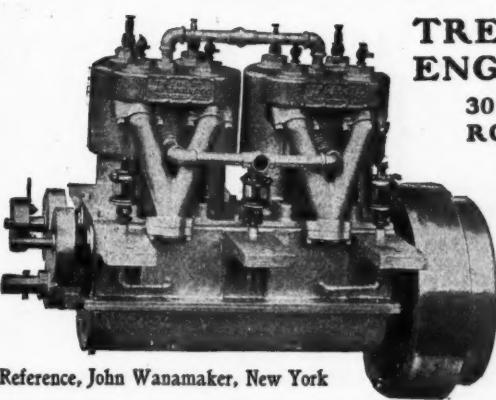
HOLLIS, PARK & POLLARD

Also manufacturers of camps, cottages, play houses and portable poultry houses

The Original and Reliable

TREBERT GAS ENGINE CO.

301 West Main St.
ROCHESTER, N. Y.



Up-to-date Engines, Transmission Gears and Clutches. Equal to the very latest French production; air and water-cooled motors. Air, 1 to 4 cyl., 2 to 15 h. p. Water-cooled Motors, 1 to 8 cyl., 10 to 45 h. p.

Reference, John Wanamaker, New York

Searchmont Cars Rebuilt

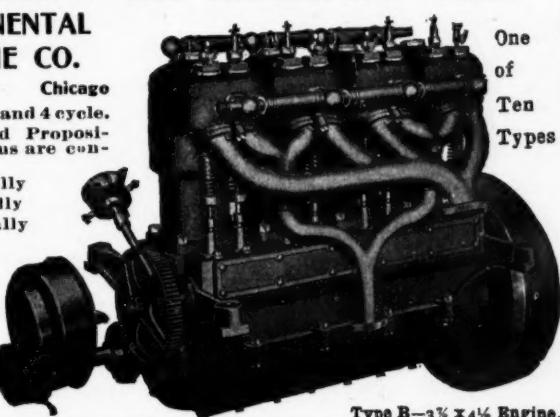
MOTORS—All Commercial Sizes

CONTINENTAL ENGINE CO.

Fisher Bldg. Chicago
1½-40 h.p. 2 and 4 cycle.
Designs and Propos-
itions from us are con-
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Technically
Practically
Financially

Reverse
Gears and
Transmis-
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Both Shaft and Chain
Drive,
Launch Fit-
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Write us.



Type B—3½ x 4½ Engine.

Chicago and Cincinnati

are connected by a railroad route having finely appointed trains, day and night—Sleepers and Parlors.

Monon—C.H.&D.

Ride this way once and you'll ride again—we think.

CHAS. H. ROCKWELL,
Traffic Manager.

CHICAGO

FRANK J. REED,
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ACME MOTOR CARS

POSITIVE CONTROL—STARTING AND STOPPING ABSOLUTELY RELIABLE—GOING AND COMING

Without flourishes or fads Acme Motor Cars are the most widely developed and thoroughly practical made.

Are simplest in construction and easily accessible at any working point.

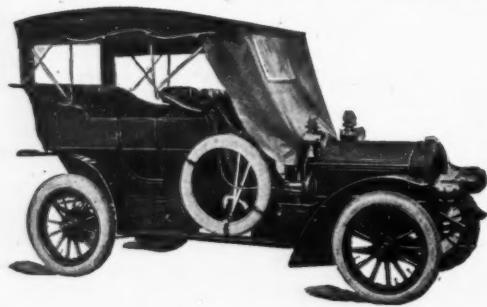
DEMONSTRATION IN TEN CITIES

ACME MOTOR CAR CO., Reading, Pa.

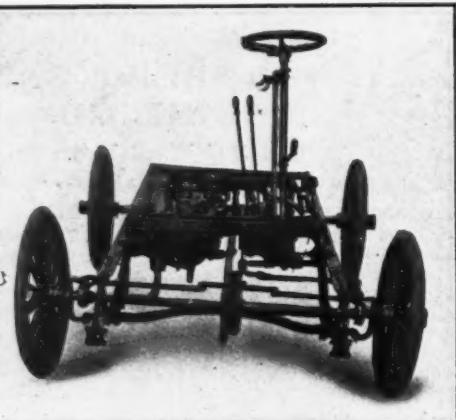
J. W. Mears, Brooklyn
Ensign & Moore, Binghamton, N. Y.
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CATALOGUE ON REQUEST



APPERSON BROS. KOKOMO INDIANA



HALL'S PATENT FRONT DRIVE AND STEERING DEVICE
PATENTED OCTOBER 1, 1901

STOP pushing your Auto. Get FRONT DRIVE

which will PULL your automobile same as a team of horses.

Also does away with Sticking in the Mud or Skidding on Wet Streets.

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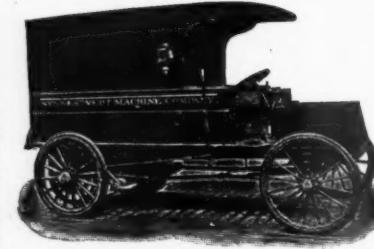
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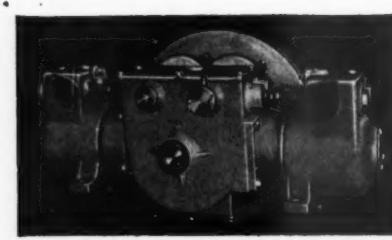
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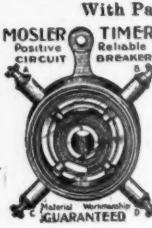
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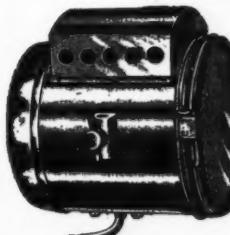
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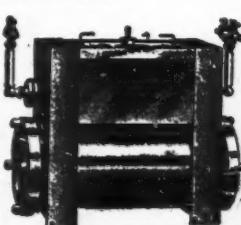


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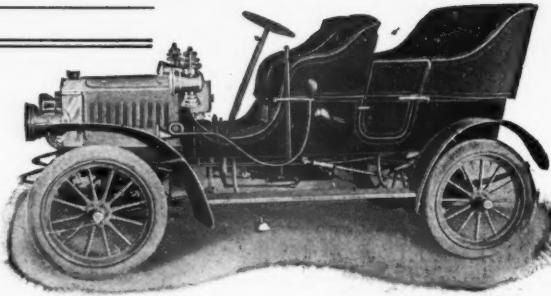
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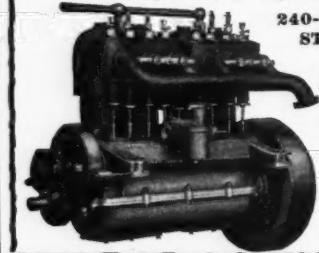
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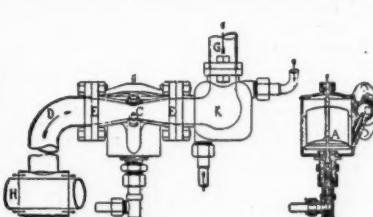
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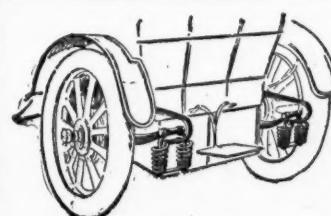


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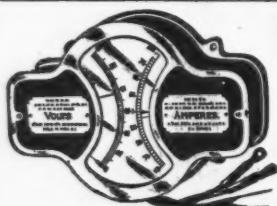
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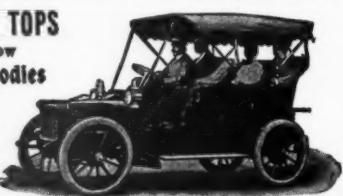
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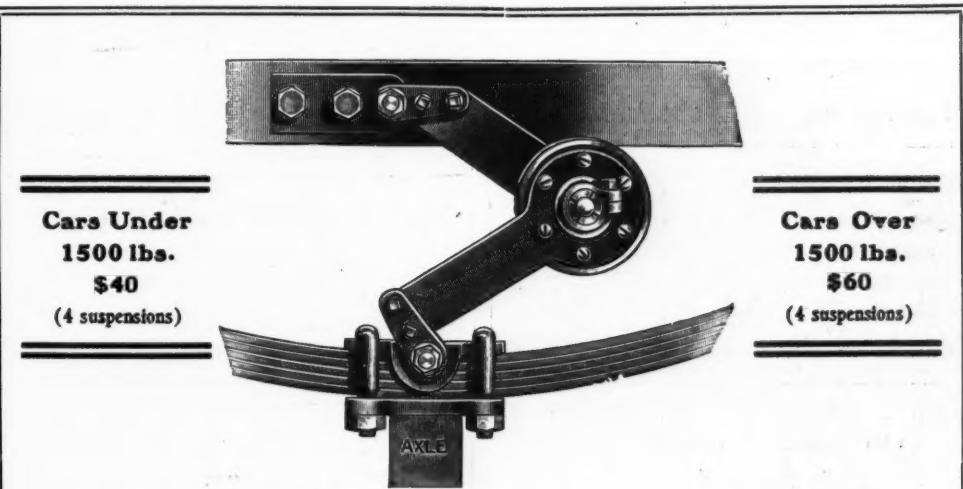
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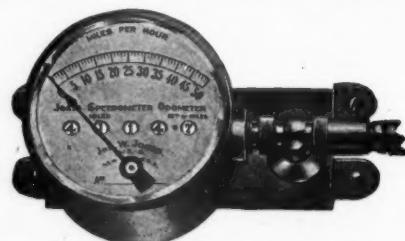
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They are giving entire satisfaction to over one hundred high-class automobile manufacturers. Will you permit us to convince you of their worth?

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WARREN, OHIO, U. S. A.SUBSCRIBE FOR
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Special Design—Finest Quality—Built-to-Order
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WE MAKE ALL STYLES
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ALUMINUM
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CANDY CARBIDE
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Long Distance Gasoline Storage System

"Tank buried—Pump located in building." Over a dozen styles from which to select. Ask for catalog S. F. BOWSER & CO., Inc., XV Fort Wayne, Ind.

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Original and Best

Tire Casings, colors to match cars. Price, 28 or 30 in. \$4.00
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is simpler in construction than any other gauge offered. No tape floats or magnetic arrangement to get out of order. Every Gasoline Automobile or Motor Boat should have one. Agents wanted—special inducement for hustlers

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WABASH

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Write for rates to any point you may wish to visit.

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Does the work
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A trial will convince you
Cleans quicker
will hold the luster longer
than any other polish.

Sold by all the leading dealers.

The Mexican Mfg. Co., Wichita, Kansas

All Leading Automobile Manufacturers Use this Cushion Spring ..

Ask for Samples and Prices.

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Goodbye, Tire Troubles. Our "Good News Book" sent free. Goodyear Tire & Rubber Co., Wallace St., Akron, O.



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LOOK BETTER
WEAR BETTER
MADE BETTER
ARE BETTER
than any others.
It's an old story with us.
We have been making good tops practically all our business lives.

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**SPIRAL TUBING RADIATORS
HOODS ANY STYLE OR SIZE
LONG MFG. CO.**
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THE WHITNEY MFG. CO., Hartford, Conn.

You will notice

"WHITNEY" CHAINS

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PUCK

The perfect switch, contacts, dust-proof, covered, under engraved metal cover. There is nothing on the market to compare with it. Must be seen to be appreciated. Price, \$2.50.

HERZ & CO.
187 Elm Street
New York
Write for Vademeum of Ignition.
Makers of the Herz-Timer

The Bank President says:

New Hampshire National Bank,
Calvin Page, Pres. W. C. Walton, Cashier.
Portsmouth, N. H. July 28th, 1905.

Messrs. Herz & Co., New York City.

Dear Sirs:—I am pleased to acknowledge the receipt of your Herz Timer and enclose check to pay for same. It is the best investment I ever made and I would not take any amount for it if I could not obtain another. It goes far beyond my expectations and I would not think that I was riding in the same machine as before. I wish every automobile owner who is suffering from a poor commutator could know about it.

Fortunately, one of your circulars came into my possession last Sunday and I wrote you asking if your spark timer would fit my Autocar, and if so forward one to me. I received it on Wednesday but did not put it on my machine until Thursday. On Wednesday I was "skipping" about the country here with trouble with the commutator, which required cleaning every ten minutes, and consumed as much as a gallon of gasoline for every five miles traveled. On Thursday, which was yesterday, after putting on your spark timer I traveled in about two hours over a rough, hilly and sandy road about forty miles, without a skip, and consumed not over two gallons of gasoline; so that I will save this season in gasoline alone many times the amount of the check I send you.

It does not seem possible that there should be such a difference in spark timers, and if this one of yours will operate as well on any machine as it does on my Autocar, everybody ought to know about it.

Yours very respectfully,

CALVIN PAGE.

HERZ & CO., 187 Elm St., N.Y., makers of the Herz Timer

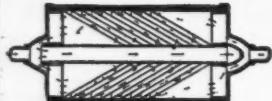
Veeder ODOMETERS

For \$10.00 you can get the Form B Veeder Odometer which goes on the left steering arm, and for \$25.00 you can get the Form D, which goes on the dash. The latter type has two registers, one of which may be set to zero at will.

"It's Nice to Know
How Far You Go."

THE VEEDER MFG. CO., 25 Sargeant Street, Hartford, Conn.
Cyclometers, Odometers, Tachometers, Counters and Fine Castings.

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Advance in the
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For particulars
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The Motor and Manuf'g Works Co., Ithaca, N. Y.

CHAIN TOOLS



THE HUSKY KIND
SENT PREPAID FOR 45c

THE MOTOR CAR SUPPLY CO.
1427 MICHIGAN AVENUE CHICAGO, ILL.



3 Bow, Complete, \$62.50 to \$120.00.
4 Bow, Complete, \$70.00 to \$160.00.
Special Terms to Agents.

LONDON AUTO SUPPLY CO.
1444 Wabash Ave. CHICAGO

FOR SALE

- 3—Ford detachable delivery bodies, painted red, each \$20.00
- 2—Ford detachable delivery bodies, painted, all complete but the finishing coat. 18.00
- 2—Detachable delivery decks to fit Cadillac, ready to varnish, almost finished 18.00
- 1—Olds detachable top to fit Olds runabout 15.00
- 2—Ford detachable delivery bodies, leaded and ready to paint 15.00
- 4—Side entrance tonneaus, not trimmed, but ready to color, varnish, each 10.00
- 1—Ford side entrance tonneau, painted Ford green, all complete 35.00
- 6—Tonneaus to fit the Olds runabouts, trimmed and painted and all complete. 10.00
- 50—Automobile steps, side or rear entrance, each25
- 50—Set fasteners for Ford tonneau, a set.25

Address M. Crumrine, Greenville, Ohio.

FOR SALE—Locomobile, 1904 model, 20 H. P., guaranteed. Complete with canopy top, five people, extra tires and parts. Extra runabout body with top, \$2,000. Harold E. Thomas, M. D., 4311 Greenwood Ave., Chicago.

FOR SALE—Rambler runabout. A bargain. Chas. Newcomb, Huntington, Ind.

FIRST-CLASS machinist desires chauffeur's position. 4 years' experience in driving and repairing automobiles. O. H. Barth, 24 Grace St., Cleveland, O.

WANTED—Cheap automobile. Condition no object. S. M. Howell, Steubenville, O.

1902 Thomas Auto Bi, in good running order, \$40. L. B., 19 Fowlerville, Mich.

FOR SALE—First and best offer takes any of the following, all nearly new: Brennan 12 H. P. with multiplier, oiler and all accessories. No. 2 Ball transmission fastened by flange to fly wheel, with double acting brake bands, 6½ feet 1¼x1½" roller chain, 2 Deitz oil lamps, 1 Deitz 8" headlight, with separate generator; four 50" elliptic springs, four patent leather fenders, 8" wide, 62-foot all copper radiator, front and rear axle, double differential and Raymond brakes, heavy wire wheels with 32x3" Goodyear puncture proof tires, never punctured; one Muncie wheel steering device, 2 sprockets, 10 and 16 tooth, for 1¼x1½" roller chain. F. W. Houghton, Norwich, N. Y.

SITUATION WANTED—By chauffeur. Experienced on Apperson, Winton and Autocar. Best references. W. S., care MOTOR AGE, Chicago.

WANTED—An A1 advertising solicitor for Chicago and the west to look after the business of a high class automobile journal; commission basis. Only men of good standing in the automobile trade and of marked ability need apply. To such an excellent opportunity is offered. Address V., care MOTOR AGE.

AUTOMOBILE DEALERS EVERYWHERE—We have a live proposition to offer dealers and agents in every town and city to handle our ready to deliver cape cart tops. Auto Top & Equipment Co., 1604 Broadway, New York City.

FOR SALE—Specially built 6 H. P. gasoline runabout, in good condition. Price \$225. Address A. Nier, 224 W. Isabel St., St. Paul, Minn.

TO TRADE—A small invention for Orient buckboard. Burns Hempsted, Croton, O.

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FOR SALE—Acme Type IV touring car; 16 horsepower; new this season; fine condition; price, \$1,000. Address C. 2, care MOTOR AGE.

An AUTO Bargain

A 4-cylinder 1905 MODEL DEMONSTRATING CAR in excellent condition for sale at a low price. Has had very little use. Full equipment.

Write for particulars. Send for our Catalog of Supplies.

A. L. Dyke Auto Supply Co.

Walton & Olive Streets,

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Special rates for continuous advertising in these columns upon application.

WANTED—Best second-hand motorcycle that can be had for not to exceed \$75. Address "G. 2," care MOTOR AGE.

FOR SALE—One 1905 four-cylinder Ford, fitted with extension top plate, glass front, large Solar head lamps. Will sell cheap. One Model L Rambler, new last Oct. Guaranteed in best of condition. One Model E Rambler runabout, A1 condition, \$350. Write for particulars. W. E. Rudy, Lima, O.

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Gets the News
Get Motor Age
\$2.00 a Year

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For General Battery Testing
0 to 20, 0 to 30 Amperes.

"Ready to use," with short, flexible cord attached. Can be used in any position, and works in either direction of current. Provided with a neat kid leather case for carrying.

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Springfield, Mass. U. S. A.

FOR SALE—8½ H. P. Winton, rebuilt; advanced spark; De Dion carburetor; 4 new tires; top; \$250. C. C. Cottle, Marshalltown, Iowa.

FOR SALE—Nearly new "Queen" double cylinder, 5 passenger; run 300 miles; will sell cheap. J. J. Russell, West Branch, Iowa.

FOR SALE—Automobiles; two hundred and up; send 3 cents for cuts; castings for motors. Wm. Riggs, Wing, Ill.

FOR SALE—Automobile bodies, made in aluminum, all upholstered, painted and finished complete, same as used on our \$5,000 cars; one rear entrance and one side entrance; worth \$1,000 each. Will sell one body with side door entrance at \$400 and one body with rear door entrance at \$250. Address Matheson Motor Car Co., Holyoke, Mass.

FOR SALE—A Great Bargain—Pope Waverly Electric Runabout, with top—practically new—cost \$900; \$450 takes it. Reason for selling, have purchased large car. Address J. L. Schilder, Chillicothe, Ohio.

FOR SALE—Pope Tribune. New, never used, 1905, model IV; side entrance; shaft drive; 2 vertical engines in front under hood; 3 speeds ahead and reverse. Located in Ohio; \$750. E. care MOTOR AGE.

STAMP brings great bargain sheet; saves .50 per cent on new and second hand automobiles, motors, gears, bodies good line engines and machinery. I buy, sell and exchange. T. S. Culp, Canton, O.

FOR SALE—8-10 passenger wagonette; sample car 1905-6 Model; steam; price and description on application. Thompson Auto. Co., Olneyville Sq., Providence, R. I.

FOR SALE—High grade 8-h.p. double opposed engine, \$125. 4-h.p. Marine and Auto motors, \$65. Write. A. J. Houle Co., S. East St., Holyoke, Mass.

FOR SALE—Waverly electric; needs batteries, but one-half of old material can be used; tires good shape; new motor just put in; price includes new charging dynamo; never used; first check for \$200. R. S. T., care MOTOR AGE.

FOR SALE—Ten H. P. runabout, \$350; in first class condition. John K. Gunn, Utica, N. Y.

FOR SALE—Franklin 1904 light tonneau, with both standing canopy and cape tops; \$1,250 f. o. b. Address 502 Chamber of Commerce, St. Louis.

FOR SALE—1904 Winton; elegant condition; have bought Model A Winton. C. E. Wilkins, Dewey Hotel, Omaha, Neb.

FOR SALE—1905 Model F Cadillac; run 300 miles; good as new; cost, with extras, \$1,035; guaranteed to be in first class shape; will sell for \$800. Address B. B., care MOTOR AGE.

FOR SALE—10 H. P. Franklin automobile, removable tonneau, in first class condition. Inquire of Chase, No. 7 Hendricks Block, Syracuse, N. Y.

WANTED—An experienced man who understands the mixtures and molding of aluminum castings. A good position for a competent man. State experience and give references. Address "Aluminum," MOTOR AGE.

FOR SALE—Steam touring car, fully equipped, flash system, detachable tonneau, 85-inch wheel base, five 3½x32-inch tires, oil and gas lamps; built to order last spring; in first class condition; will sell at bargain; will send photo. A. J. Schram, Lake Geneva, Wis.

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CHICAGO SCHOOL OF MOTORING.

The original Automobile School in Chicago. We will refer you upon request to any of our ninety student graduates since Nov. 15, 1904. Automobile owners, prospective buyers and young men wanting to become expert chauffeurs will save a great deal of money and a lot of worry by studying the mechanism, care and repair of gasoline automobiles. We give thorough and practical instruction. No theory. Investigate. Competent chauffeurs supplied.

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A few new cars used as demonstrators. Guaranteed perfect condition. Prices for quick sales. No offers considered. 1905 two cylinder Runabout \$625. 1905 four cylinder Touring Car \$1,250. Address "C," care MOTOR AGE.

FOR SALE—Pope Hartford, model B. New. Never used, \$650. G., care MOTOR AGE.

FOR SALE—Stationary gasoline engines, 1½ H. P., \$60; 3 H. P., \$96; also castings in the rough. Send 3 cents for cuts. Wm. Riggs, Wing, Ill.

FOR SALE—Overman steam runabout, recently overhauled and in A1 condition. A very superior and reliable car. Price \$275. H. W. Beach, Montrose, Pa.

Logan Air Cooled LIGHT DELIVERY CAR

Two-cylinder
opposed
in front
under hood



Sliding
gear
transmission,
chain drive

THAT CAR OF QUALITY

After six months' test we know that our 10 h. p. Light Delivery Car is an assured success 1500 pounds carrying capacity. Any style body desired. The price will interest you.

WRITE US FOR DETAILED INFORMATION

Logan Construction Co., Chillicothe, Ohio

FOR SALE—By owner, up-to-date 15 H. P. Panhard, with new side door, new Capetown top, curtains, new Krebs carburetor, and latest steering gear; machinery thoroughly overhauled and in A1 condition; car fully equipped, newly painted and ready for use; as good as new, fine appearance, and high-class in every way; seats five; unusual opportunity for any one wanting a first-class French car for immediate delivery. Address J. J. Scott, 7 Monroe St., Chicago, Ill.

FOR SALE—Packard Model "F" just returned after a thorough overhauling at the factory. All worn parts replaced; cylinder rebored and new piston fitted; ready to go on the road and stay there. Any one looking for a staunch and reliable touring car will find it well worth while to write for further information. H. W. Beach, Montrose, Pa.

MANUFACTURERS wanting more capital write A. Hess, Barberville, O.

FOR SALE—Specially built runabout of 22 h. p. Buick engine, ball transmission, both practically new, car in excellent condition; \$500 takes it. A great bargain, write for details. Address P. O. Box K, Chillicothe, O.

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ALL KINDS RUBBERINE FILLED are puncture proof; give twice the service, saving delays; resiliency retained; get sample and prices. Also new and second-hand tires. Automobile Palace, 152 W. Jackson Blvd., Chicago.

FOR SALE—Oldsmobile runabout. Write Peter DeCloux, Oconto, Wis.

HEAVY POLISHED KLIMAX AUTO CLOCKS, 8-day, 3½ inch porcelain dial, beveled glass, advertised by others as worth much more, special net price \$5.50. Liberal discount to the trade. Your money back if you want it. C. W. Little, wholesale and retail jeweler, 74-76 Cortlandt St., New York.

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Nyberg Automobile Works, Chicago, Ill. Fully described in Horseless Age, Feb. 1; Automobile Review, Feb. 4.

BARGAINS 80 Automobiles For Sale

CONSISTING OF

Runabouts, Broughams, Brakes, Cabs, Landaus, Opera Buses, Wagonettes, 10, 12 and 20-Passenger Carriers, 2 and 3-Ton Trucks.

For particulars, address

WILLIAM FAY,
1614 Chemical Building, ST. LOUIS, MO.

Peru Wants New Factories

Exceptional inducements offered for good growing concerns. For particulars write to Oakdale Improvement Company, Peru, Ind.

FOR SALE—Marble Swift 15 H. P., friction transmissions; bargain; new. 729, 119 Monroe, Chicago.

FOR SALE—A beautiful steam touring car, 15 H. P., 5 passenger, canopy top, glass front, in pink of condition, cannot be detected that has been used. This \$2,500 car will be sold at a bargain as owner is leaving city. Frank H. Hilderman, Box 125, Sullivan, Ind.

FOR SALE—1905 Model G Yale automobile, built by the Kirl Mfg. Co., Toledo, O.; delivered to me in May; has not been run 200 miles; will sell cheap. E. S. Hobbs, Aurora, Ill.

FOR SALE—Haynes side-entrance surrey with top, also 1905 Imperial air-cooled runabout with top. Carl Bauman, Dayton, O.

WANT Tonneau car for 100 feet on improved street; trolley, houses adjoining. 729, 164 Dearborn st., Chicago.

FOR SALE—Touring car, run less than 300 miles, first class condition. Price \$700. W. H. Upham, Leominster, Mass.

TIRES WE UNDERSALE EVERYBODY \$10 UP

Oldsmobile Tires. Brand New and Fresh From Factory, Only \$10.00. All other makes and sizes in proportion. We repair all Tires. We pay the freight on any Tires sent us. Examine and write estimate on cost of repairing before doing any work. We charge \$2.00 and up for vulcanizing. Retreading, recovering. Filling done promptly.

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WANTED A BUYER FOR TWO BAKER ELECTRICS

1 Imperial, Used 300 Miles (New Battery)

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BOTH OF THESE CARS FOR \$1,000 CASH

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Auto
isn't
just
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STILLSON AUTOMOBILE WRENCH

IT WILL OUTLAST ANY OTHER TOOL
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The original, most efficient and durable.
Used exclusively in all up-to-date gar-
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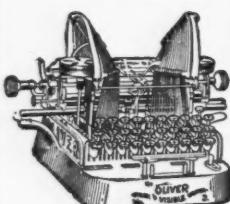
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In cities and towns where we are not at present represented. An agency for this progressive and up-to-date typewriter carries with it a dignified and profitable position for high class men. We aid our agents to achieve success and extend their field as their development warrants. We seek to make it worth while for good men to remain with us permanently. Previous experience neither essential nor objectionable. The Oliver agency can be carried on in connection with other business in some localities. If you are the kind of man we are seeking, we will enter into details by correspondence on receipt of your inquiry.



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WHEN YOU THINK SPARK PLUGS
\$1.50 THINK NEVER-MISS \$1.50
THAT'S ALL

The up-to-the-minute Jobber and
Retailer can supply you. Ask him.
There is none just as good.
Stand $\frac{1}{4}$ in. Winton. Auto Car Metric.
Fully guaranteed.
You go faster, farther and get back
with a Never-Miss. Just try and see.
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There are a lot of Plugs, but only one
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NEVER-MISS SPARK PLUG CO.

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bles are a thing of little moment when BRYANT RIMS are used. Inner tube is accessible in 30 seconds with no tools but your hands. We have an especially attractive proposition for dealers. Ask about it.

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These cars must
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AUTOCAR with Tonneau, 1904 Model, run only 3 months, was thoroughly overhauled and larger tires put on; tires new and car looks and runs like new; tonneau is detachable; painted green, cost \$1700. Price..... \$700

CADILLAC, late 1903 Model, in fine condition; tires all good; machinery in perfect condition. Price..... \$375

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Do you wish to trade in your car or a new 1905 Stevens-Duryea? 4-cylinder, with chime whistle which works from the exhaust. Never-out searchlight with patent reversible No. 19m Never-out Generator. Muffler cutout. Storage battery. All the above are extras, but will be included at

We will not sell this car for any less, but as an inducement to some of our customers who wish to dispose of their present cars we will figure on taking your car in at a reasonable figure. Send for catalog of this wonderful car.



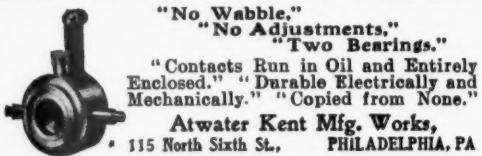
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"No Wobble."

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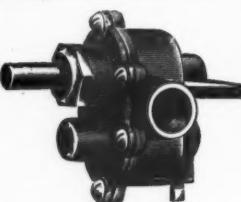
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Well adapted for Oldsmobile and other makes, works with any type of radiator. Easily attached. Write for prices.

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The Most Complete Guide for the Touring Automobilist



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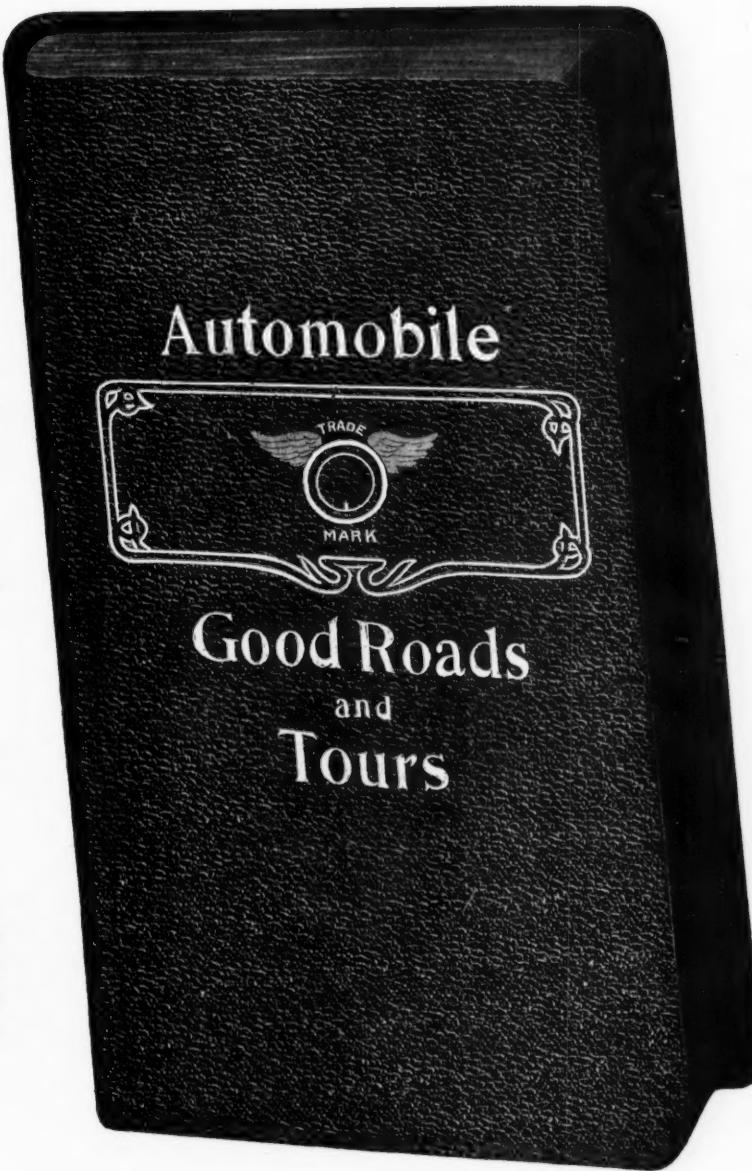
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